

## PART 195 – TRANSPORTATION OF HAZARDOUS LIQUIDS BY PIPELINE

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Authority: 49 U.S.C. 5103, 60102, 60104, 60108, 60109, 60118; and 49 CFR 1.53.

[50 FR 45733, Nov. 1, 1985 as amended by Amdt. 195-70, 65 FR 75378; Amdt. 915-71, 65 FR 80530, Dec. 21, 2000]

## Subpart A—General

### §195.0 Scope.

This part prescribes safety standards and reporting requirements for pipeline facilities used in the transportation of hazardous liquids or carbon dioxide.

[Amdt. 195-22, 46 FR 38357, July 27, 1981 as amended by Amdt. 195-45, 56 FR 26922, June 12, 1991]

### §195.1 Applicability.

(a) Except as provided in paragraph (b) of this section, this part applies to pipeline facilities and the transportation of hazardous liquids or carbon dioxide associated with those facilities in or affecting interstate or foreign commerce, including pipeline facilities on the Outer Continental Shelf.

(b) This part does not apply to—

(1) Transportation of a hazardous liquid that is transported in a gaseous state;

(2) Transportation of a hazardous liquid through a pipeline by gravity;

(3) Transportation through any of the following low-stress pipelines:

(i) An onshore pipeline or pipeline segment that –

(A) Does not transport HVL;

(B) Is located in a rural area; and

(C) Is located outside a waterway currently used for commercial navigation;

(ii) A pipeline subject to safety regulations of the U.S. Coast Guard; or

(iii) A pipeline that serves refining, manufacturing, or truck, rail or vessel terminal facilities, if the pipeline is less than 1 mile long (measured outside facility grounds) and does not cross an offshore area or a waterway currently used for commercial navigation;

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(4) Transportation of petroleum in onshore gathering lines in rural areas except gathering lines in the inlets of the Gulf of Mexico subject to §195.413;

(5) Transportation of hazardous liquid or carbon dioxide in offshore pipelines which are located upstream from the outlet flange of each facility where hydrocarbons or carbon dioxide are produced or where produced hydrocarbons or carbon dioxide are first separated, dehydrated, or otherwise processed, whichever facility is farther downstream;

(6) Transportation of hazardous liquid or carbon dioxide in Outer Continental Shelf pipelines which are located upstream of the point at which operating responsibility transfers from a producing operator to a transporting operator.

(7) Transportation of a hazardous liquid or carbon dioxide through onshore production (including flow lines), refining, or manufacturing facilities or storage or in-plant piping systems associated with such facilities;

(8) Transportation of a hazardous liquid or carbon dioxide—

(i) By vessel, aircraft, tank truck, tank car, or other non-pipeline mode of transportation; or

(ii) Through facilities located on the grounds of a materials transportation terminal that are used exclusively to transfer hazardous liquid or carbon dioxide between non-pipeline modes of transportation or between a non-pipeline mode and a pipeline, not including any device and associated piping that are necessary to control pressure in the pipeline under §195.406(b); and,

(9) Transportation of carbon dioxide downstream from the following point, as applicable:

(i) The inlet of a compressor used in the injection of carbon dioxide for oil recovery

operations, or the point where recycled carbon dioxide enters the injection system, whichever is farther upstream; or

(ii) The connection of the first branch pipeline in the production field that transports carbon dioxide to injection wells or to headers or manifolds from which pipelines branch to injection wells.

(c) Breakout tanks subject to this part must comply with requirements that apply specifically to breakout tanks and, to the extent applicable, with requirements that apply to pipeline systems and pipeline facilities. If a conflict exists between a requirement that applies specifically to breakout tanks and a requirement that applies to pipeline systems or pipeline facilities, the requirement that applies specifically to breakout tanks prevails. Anhydrous ammonia breakout tanks need not comply with §§195.132(b), 195.205(b), 195.242 (c) and (d), 195.264 (b) and (e), 195.307, 195.428 (c) and (d), and 195.432 (b) and (c).

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985; Amdt. 195-36, 52 FR 15005, Apr. 22, 1986; Amdt. 195-36C, 51 FR 20976, June 10, 1986; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-47, 56 FR 63764, Dec. 5, 1991; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-53, 59 FR 35465, July 12, 1994; Amdt. 195-57, 62 FR 31364, June 9, 1997; Amdt. 195-57A, 62 FR 52511, Oct. 8, 1997; Amdt. 195-59, 62 FR 61692, Nov. 19, 1997; Amdt. 195-64, 63 FR 46692, Sep. 2, 1998; Amdt. 195-66, 64 FR 15926, April 2, 1999]

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### §195.2 Definitions.

As used in this part–

**Abandoned** means permanently removed from service.

**Administrator** means the Administrator of the Research and Special Programs Administration or any person to whom authority in the matter concerned has been delegated by the Secretary of Transportation.

**Barrel** means a unit of measurement equal to 42 U.S. standard gallons.

**Breakout tank** means a tank used to (a) relieve surges in a hazardous liquid pipeline system or (b) receive and store hazardous liquid transported by a pipeline for reinjection and continued transportation by pipeline.

**Carbon dioxide** means a fluid consisting of more than 90 percent carbon dioxide molecules compressed to a supercritical state.

**Component** means any part of a pipeline which may be subjected to pump pressure including, but not limited to, pipe, valves, elbows, tees, flanges, and closures.

**Computational Pipeline Monitoring (CPM)** means a software-based monitoring tool that alerts the pipeline dispatcher of a possible pipeline operating anomaly that may be indicative of a commodity release.

**Corrosive product** means “corrosive material” as defined by §173.136 Class 8-Definitions of this chapter.

**Exposed pipeline** means a pipeline where the top of the pipe is protruding above the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

**Flammable product** means “flammable liquid” as defined by §173.120 Class 3-Definitions of this chapter.

**Gathering line** means a pipeline 219.1 mm (8 5/8 in) or less nominal outside diameter that transports petroleum from a production facility.

**Gulf of Mexico and its inlets** means the waters from the mean high water mark of the coast of the Gulf of Mexico and its inlets open to the sea (excluding rivers, tidal marshes, lakes, and canals) seaward to include the territorial sea and Outer Continental Shelf to a depth of 15 feet (4.6 meters), as measured from the mean low water.

**Hazard to navigation** means, for the purpose of this part, a pipeline where the top of the pipe is less than 12 inches (305 millimeters) below the seabed in water less than 15 feet (4.6 meters) deep, as measured from the mean low water.

**Hazardous liquid** means petroleum, petroleum products, or anhydrous ammonia.

**Highly volatile liquid** or **HVL** means a hazardous liquid which will form a vapor cloud when released to the atmosphere and which has a vapor pressure exceeding 276 kPa (40 psia) at 37.8°C (100°F).

**In-plant piping system** means piping that is located on the grounds of a plant and used to transfer hazardous liquid or carbon dioxide between plant facilities or between

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plant facilities and a pipeline or other mode of transportation, not including any device and associated piping that are necessary to control pressure in the pipeline under §195.406(b).

**Interstate pipeline** means a pipeline or that part of a pipeline that is used in the transportation of hazardous liquids or carbon dioxide in interstate or foreign commerce.

**Intrastate pipeline** means a pipeline or that part of a pipeline to which this part applies that is not an interstate pipeline.

**Line section** means a continuous run of pipe between adjacent pressure pump stations, between a pressure pump station and terminal or breakout tanks, between a pressure pump station and a block valve, or between adjacent block valves.

**Low stress pipeline** means a hazardous liquid pipeline that is operated in its entirety at a stress level of 20 percent or less of the specified minimum yield strength of the line pipe.

**Nominal wall thickness** means the wall thickness listed in the pipe specifications.

**Offshore** means beyond the line of ordinary low water along that portion of the coast of the United States that is in direct contact with the open seas and beyond the line marking the seaward limit of inland waters.

**Outer Continental Shelf** means all submerged lands lying seaward and outside the area of lands beneath navigable waters as defined in Section 2 of the Submerged Lands Act (43 U.S.C. 1301) and of which the subsoil and seabed appertain to the

United States and are subject to its jurisdiction and control.

**Operator** means a person who owns or operates pipeline facilities.

**Person** means any individual, firm, joint venture, partnership, corporation, association, State, municipality, cooperative association, or joint stock association, and includes any trustee, receiver, assignee, or personal representative thereof.

**Petroleum** means crude oil, condensate, natural gasoline, natural gas liquids, and liquefied petroleum gas.

**Petroleum product** means flammable, toxic, or corrosive products obtained from distilling and processing of crude oil, unfinished oils, natural gas liquids, blend stocks and other miscellaneous hydrocarbon compounds.

**Pipe or line pipe** means a tube, usually cylindrical, through which a hazardous liquid or carbon dioxide flows from one point to another.

**Pipeline or pipeline system** means all parts of a pipeline facility through which a hazardous liquid or carbon dioxide moves in transportation, including, but not limited to, line pipe, valves and other appurtenances connected to line pipe, pumping units, fabricated assemblies associated with pumping units, metering and delivery stations and fabricated assemblies therein, and breakout tanks.

**Pipeline facility** means new and existing pipe, rights-of-way, and any equipment, facility, or building used in the

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transportation of hazardous liquids or carbon dioxide.

***Production facility*** means piping or equipment used in the production, extraction, recovery, lifting, stabilization, separation or treating of petroleum or carbon dioxide, or associated storage or measurement. (To be a production facility under this definition, piping or equipment must be used in the process of extracting petroleum or carbon dioxide from the ground or from facilities where CO<sub>2</sub> is produced, and preparing it for transportation by pipeline. This includes piping between treatment plants which extract carbon dioxide, and facilities utilized for the injection of carbon dioxide for recovery operations.)

***Rural area*** means outside the limits of any incorporated or unincorporated city, town, village, or any other designated residential or commercial area such as a subdivision, a business or shopping center, or community development.

***Specified minimum yield strength*** or ***SMYS*** means the minimum yield strength, expressed in p.s.i. (kPa) gage, prescribed by the specification under which the material is purchased from the manufacturer.

***Stress level*** means the level of tangential or hoop stress, usually expressed as a percentage of specified minimum yield strength.

***Surge pressure*** means pressure produced by a change in velocity of the moving stream that results from shutting down a pump station or pumping unit, closure of a valve, or any other blockage of the moving stream.

***Toxic product*** means “poisonous material” as defined by 173.132 Class 6, Division 6.1-Definitions of this chapter.

***Unusually sensitive area (USA)*** means a drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release, as identified under §195.6.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-33C, 50 FR 38659, Sept. 24, 1985; Amdt. 195-36, 51 FR 15005, Apr. 22, 1986; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-47, 56 FR 63764, Dec. 5, 1991; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-53, 59 FR 35465, July 12, 1994; Amdt. 195-59, 62 FR 61692, Nov. 19, 1997; Amdt. 195-62, 63 FR 36373, July 6, 1998; Amdt. 195-63, 63 FR 37500, July 13, 1998; Amdt. 195-69, 65 FR 54440, Sept. 8, 2000, [Amdt. 915-71, 65 FR 80530, Dec. 21, 2000](#)]

### §195.3 Matter incorporated by reference.

(a) Any document or portion thereof incorporated by reference in this part is included in this part as though it were printed in full. When only a portion of a document is referenced, then this part incorporates only that referenced portion of the document and the remainder is not incorporated. Applicable editions are listed in paragraph (c) of this section in parentheses following the title of the referenced material. Earlier editions listed

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in previous editions of this section may be used for components manufactured, designed, or installed in accordance with those earlier editions at the time they were listed. The user must refer to the appropriate previous edition of 49 CFR for a listing of the earlier editions.

(b) All incorporated materials are available for inspection in the Research and Special Programs Administration, 400 Seventh Street, SW., Washington, DC, and at the Office of the Federal Register, 800 North Capitol, NW., Suite 700, Washington, DC. These materials have been approved for incorporation by reference by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. In addition, materials incorporated by reference are available as follows:

(1) American Gas Association (AGA), 1515 Wilson Boulevard, Arlington, VA 22209.

(2) American Petroleum Institute (API), 1220 L Street, NW., Washington, DC 20005.

(3) The American Society of Mechanical Engineers (ASME), United Engineering Center, 345 East 47th Street, New York, NY 10017.

(4) Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS), 127 Park Street, NE., Vienna, VA 22180.

(5) American National Standards Institute (ANSI), 11 West 42nd Street, New York, NY 10036.

(6) American Society for Testing and Materials (ASTM) 100 Barr Harbor Drive, West Conshohocken, PA 19428.

(7) National Fire Protection Association (NFPA), 11 Tracy Drive, Avon, MA 02322.

(c) The full titles of publications incorporated by reference wholly or partially

in this part are as follows. Numbers in parentheses indicate applicable editions:

(1) American Gas Association (AGA): AGA Pipeline Research Committee, Project PR-3-805, "A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe" (December 1989). The RSTRENG program may be used for calculating remaining strength.

(2) American Petroleum Institute (API):

(i) API 510 "Pressure Vessel Inspection Code: Maintenance Inspection, Rating, Repair, and Alteration" (8th edition, June 1997).

(ii) API 1130 "Computational Pipeline Monitoring" (1st Edition, 1995).

(iii) API Publication 2026 "Safe Access/Egress Involving Floating Roofs of Storage Tanks in Petroleum Service" (2nd edition, April 1998).

(iv) API Recommended Practice 651 "Cathodic Protection of Aboveground Petroleum Storage Tanks" (2nd edition, December 1997).

(v) API Recommended Practice 652 "Lining of Aboveground Petroleum Storage Tank Bottoms" (2nd edition, December 1997).

(vi) API Recommended Practice 2003 "Protection Against Ignitions Arising out of Static, Lightning, and Stray Currents" (6th edition, December 1998).

(vii) API Recommended Practice 2350 "Overfill Protection for Storage Tanks In Petroleum Facilities" (2nd edition, January 1996).

(viii) API Specification 5L "Specification for Line Pipe" (41st edition, 1995).

(ix) API Specification 6D "Specification for Pipeline Valves (Gate, Plug, Ball, and Check Valves)" (21st edition, 1994).

(x) API Specification 12F "Specification for Shop Welded Tanks for Storage of



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Production Liquids" (11th edition, November 1994).

(xi) API Standard 1104 "Welding Pipelines and Related Facilities" (18th edition, 1994).

(xii) API Standard 620 "Design and Construction of Large, Welded, Low-Pressure Storage Tanks" (9th edition, February 1996, Including Addenda 1 and 2).

(xiii) API Standard 650 "Welded Steel Tanks for Oil Storage" (9th edition, July 1993 (Including Addenda 1 through 4).

(xiv) API Standard 653 "Tank Inspection, Repair, Alteration, and Reconstruction" (2nd edition, December 1995, including Addenda 1 & 2).

(xv) API Standard 2000 "Venting Atmospheric and Low-Pressure Storage Tanks" (4th edition, September 1992).

(xvi) API Standard 2510 "Design and Construction of LPG Installations" (7th edition, May 1995).

(3) American Society of Mechanical Engineers (ASME):

(i) ASME/ANSI B16.9 "Factory-Made Wrought Steel Buttwelding Fittings" (1993).

(ii) ASME/ANSI B31.4 "Liquid Transportation Systems for Hydrocarbons, Liquid Petroleum Gas, Anhydrous Ammonia, and Alcohols" (1992 edition with ASME B31.4a-1994 Addenda).

(iii) ASME/ANSI B31.8 "Gas Transmission and Distribution Piping Systems" (1995).

(iv) ASME/ANSI B31G, "Manual for Determining the Remaining Strength of Corroded Pipelines" (1991).

(v) ASME Boiler and Pressure Vessel Code, Section VIII "Pressure Vessels," Divisions 1 and 2 (1995 edition with 1995 Addenda)..

(vi) ASME Boiler and Pressure Vessel Code, Section IX "Welding and Brazing

Qualifications" (1995 edition with 1995 Addenda).

(4) Manufacturers Standardization Society of the Valve and Fittings Industry, Inc. (MSS):

(i) MSS SP-75 "Specification for High Test Wrought Butt Welding Fittings" (1993).

(ii) [Reserved]

(5) American Society for Testing and Materials (ASTM):

(i) ASTM Designation: A53 "Standard Specification for Pipe, Steel, Black and Hot-Dipped, Zinc-Coated Welded and Seamless" (A53-96).

(ii) ASTM Designation: A106 "Standard Specification for Seamless Carbon Steel Pipe for High-Temperature Service" (A106-95).

(iii) ASTM Designation: A 333/A 333M "Standard Specification for Seamless and Welded Steel Pipe for Low-Temperature Service"(A 333/A 333M-94).

(iv) ASTM Designation: A 381 "Standard Specification for Metal-Arc-Welded Steel Pipe for Use With High-Pressure Transmission Systems" (A 381-93).

(v) ASTM Designation: A 671 "Standard Specification for Electric-Fusion-Welded Steel Pipe for Atmospheric and Lower Temperatures" (A 671-94).

(vi) ASTM Designation: A 672 "Standard Specification for Electric-Fusion-Welded Steel Pipe for High-Pressure Service at Moderate Temperatures" (A 672-94).

(vii) ASTM Designation: A 691 "Standard Specification for Carbon and Alloy Steel Pipe Electric-Fusion-Welded for High-Pressure Service at High Temperatures"(A 691-93).

(6) National Fire Protection Association (NFPA):

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(i) ANSI/NFPA 30 "Flammable and Combustible Liquids Code," (1996).

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-9, 41 FR 13590, Mar. 31, 1976; Amdt. 195-14, 43 FR 18553, May 1, 1978; Amdt. 195-21, 46 FR 10157, Feb. 2, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-32, 49 FR 36859, Sep. 20, 1984; Amdt. 195-37, 51 FR 15333, Apr. 23, 1986; Amdt. 195-40, 54 FR 5625, Feb. 6, 1989; Amdt. 195-41, 54 FR 22781, July 3, 1989; Amdt. 195-43, 54 FR 32344, Aug. 7, 1989; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-48, 58 FR 14519, Mar. 18, 1993; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-56, 61 FR 26121, May, 24, 1996; Amdt. 195-56A, 61 FR 36825, July 15, 1996; Amdt. 195-61, 63 FR 7721, Feb. 17, 1998; Amdt. 195-62, 63 FR 36373, July 6, 1998; Amdt. 195-66, 64 FR 15926, April 2, 1999; Amdt. 195-66A, 65 FR 4770, Feb. 1, 2000]

### **§195.4 Compatibility necessary for transportation of hazardous liquids or carbon dioxide.**

No person may transport any hazardous liquid or carbon dioxide unless the hazardous liquid or carbon dioxide is chemically compatible with both the pipeline, including all components, and any other commodity that it may come into contact with while in the pipeline.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991]

### **§195.5 Conversion to service subject to this part.**

(a) A steel pipeline previously used in service not subject to this part qualifies for use under this part if the operator prepares and follows a written procedure to accomplish the following:

(1) The design, construction, operation, and maintenance history of the pipeline must be reviewed and, where sufficient historical records are not available, appropriate tests must be performed to determine if the pipeline is in satisfactory condition for safe operation. If one or more of the variables necessary to verify the design pressure under §195.106 or to perform the testing under paragraph (a) (4) of this section is unknown, the design pressure may be verified and the maximum operating pressure determined by-

(i) Testing the pipeline in accordance with ASME B31.8, Appendix N, to produce a stress equal to the yield strength; and

(ii) Applying, to not more than 80 percent of the first pressure that produces a yielding, the design factor F in §195.106(a) and the appropriate factors in §195.106(e).

(2) The pipeline right-of-way, all aboveground segments of the pipeline, and appropriately selected underground segments must be visually inspected for physical defects and operating conditions which reasonably could be expected to impair the strength or tightness of the pipeline.

(3) All known unsafe defects and conditions must be corrected in accordance with this part.

(4) The pipeline must be tested in accordance with subpart E of this part to substantiate the maximum operating pressure permitted by §195.406.

(b) A pipeline which qualifies for use under this section need not comply with the

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corrosion control requirements of this part until 12 months after it is placed in service, notwithstanding any earlier deadlines for compliance. In addition to the requirements of subpart F of this part, the corrosion control requirements of subpart D apply to each pipeline which substantially meets those requirements before it is placed in service or which is a segment that is replaced, relocated, or substantially altered.

(c) Each operator must keep for the life of the pipeline a record of the investigations, tests, repairs, replacements, and alterations made under the requirements of paragraph (a) of this section.

[Amdt. 195-13, 43 FR 6786, Feb. 16, 1979 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### §195.6 Unusually Sensitive Areas (USAs).

As used in this part, a USA means a drinking water or ecological resource area that is unusually sensitive to environmental damage from a hazardous liquid pipeline release.

(a) An USA drinking water resource is:

(1) The water intake for a Community Water System (CWS) or a Non-transient Non-community Water System (NTNCWS) that obtains its water supply primarily from a surface water source and does not have an adequate alternative drinking water source;

(2) The Source Water Protection Area (SWPA) for a CWS or a NTNCWS that obtains its water supply from a Class I or Class IIA aquifer and does not have an adequate alternative drinking water source. Where a state has not yet identified the

SWPA, the Wellhead Protection Area (WHPA) will be used until the state has identified the SWPA; or

(3) The sole source aquifer recharge area where the sole source aquifer is a karst aquifer in nature.

(b) An USA ecological resource is:

(1) An area containing a critically imperiled species or ecological community;

(2) A multi-species assemblage area;

(3) A migratory waterbird concentration area;

(4) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or an imperiled ecological community where the species or community is aquatic, aquatic dependent, or terrestrial with a limited range; or

(5) An area containing an imperiled species, threatened or endangered species, depleted marine mammal species, or imperiled ecological community where the species or community occurrence is considered to be one of the most viable, highest quality, or in the best condition, as identified by an element occurrence ranking (EORANK) of A (excellent quality) or B (good quality).

(c) As used in this part--

*Adequate Alternative Drinking Water Source* means a source of water that currently exists, can be used almost immediately with a minimal amount of effort and cost, involves no decline in water quality, and will meet the consumptive, hygiene, and fire fighting requirements of the existing population of impacted customers for at least one month for a surface water source of water and at least six months for a groundwater source.

*Aquatic or Aquatic Dependent Species or Community* means a species or community that primarily occurs in aquatic,

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marine, or wetland habitats, as well as species that may use terrestrial habitats during all or some portion of their life cycle, but that are still closely associated with or dependent upon aquatic, marine, or wetland habitats for some critical component or portion of their life-history (i.e., reproduction, rearing and development, feeding, etc).

*Class I Aquifer* means an aquifer that is surficial or shallow, permeable, and is highly vulnerable to contamination. Class I aquifers include:

(1) Unconsolidated Aquifers (Class Ia) that consist of surficial, unconsolidated, and permeable alluvial, terrace, outwash, beach, dune and other similar deposits. These aquifers generally contain layers of sand and gravel that, commonly, are interbedded to some degree with silt and clay. Not all Class Ia aquifers are important water-bearing units, but they are likely to be both permeable and vulnerable. The only natural protection of these aquifers is the thickness of the unsaturated zone and the presence of fine-grained material;

(2) Soluble and Fractured Bedrock Aquifers (Class Ib). Lithologies in this class include limestone, dolomite, and, locally, evaporitic units that contain documented karst features or solution channels, regardless of size. Generally these aquifers have a wide range of permeability. Also included in this class are sedimentary strata, and metamorphic and igneous (intrusive and extrusive) rocks that are significantly faulted, fractured, or jointed. In all cases groundwater movement is largely controlled by secondary openings. Well yields range widely, but the important feature is the potential for rapid vertical and lateral ground water movement along preferred pathways, which result in a high degree of vulnerability;

(3) Semiconsolidated Aquifers (Class Ic) that generally contain poorly to moderately indurated sand and gravel that is interbedded with clay and silt. This group is intermediate to the unconsolidated and consolidated end members. These systems are common in the Tertiary age rocks that are exposed throughout the Gulf and Atlantic coastal states. Semiconsolidated conditions also arise from the presence of intercalated clay and caliche within primarily unconsolidated to poorly consolidated units, such as occurs in parts of the High Plains Aquifer; or

(4) Covered Aquifers (Class Id) that are any Class I aquifer overlain by less than 50 feet of low permeability, unconsolidated material, such as glacial till, lacustrine, and loess deposits.

*Class IIa aquifer* means a Higher Yield Bedrock Aquifer that is consolidated and is moderately vulnerable to contamination. These aquifers generally consist of fairly permeable sandstone or conglomerate that contain lesser amounts of interbedded fine grained clastics (shale, siltstone, mudstone) and occasionally carbonate units. In general, well yields must exceed 50 gallons per minute to be included in this class. Local fracturing may contribute to the dominant primary porosity and permeability of these systems.

*Community Water System (CWS)* means a public water system that serves at least 15 service connections used by year-round residents of the area or regularly serves at least 25 year-round residents.

*Critically imperiled species or ecological community (habitat)* means an animal or plant species or an ecological community of extreme rarity, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 5 or fewer occurrences, or very few remaining

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individuals (less than 1,000) or acres (less than 2,000). These species and ecological communities are extremely vulnerable to extinction due to some natural or man-made factor.

*Depleted marine mammal species* means a species that has been identified and is protected under the Marine Mammal Protection Act of 1972, as amended (MMPA) (16 U.S.C. 1361 et seq.). The term “depleted” refers to marine mammal species that are listed as threatened or endangered, or are below their optimum sustainable populations (16 U.S.C. 1362). The term “marine mammal” means “any mammal which is morphologically adapted to the marine environment (including sea otters and members of the orders Sirenia, Pinnipedia, and Cetacea), or primarily inhabits the marine environment (such as the polar bear)” (16 U.S.C. 1362). The order Sirenia includes manatees, the order Pinnipedia includes seals, sea lions, and walruses, and the order Cetacea includes dolphins, porpoises, and whales.

*Ecological community* means an interacting assemblage of plants and animals that recur under similar environmental conditions across the landscape.

*Element occurrence rank (EORANK)* means the condition or viability of a species or ecological community occurrence, based on a population's size, condition, and landscape context. EORANKs are assigned by the Natural Heritage Programs. An EORANK of A means an excellent quality and an EORANK of B means good quality.

*Imperiled species or ecological community (habitat)* means a rare species or ecological community, based on The Nature Conservancy's Global Conservation Status Rank. There are generally 6 to 20 occurrences, or few remaining individuals (1,000 to 3,000) or acres (2,000 to 10,000).

These species and ecological communities are vulnerable to extinction due to some natural or man-made factor.

*Karst aquifer* means an aquifer that is composed of limestone or dolomite where the porosity is derived from connected solution cavities. Karst aquifers are often cavernous with high rates of flow.

*Migratory waterbird concentration area* means a designated Ramsar site or a Western Hemisphere Shorebird Reserve Network site.

*Multi-species assemblage area* means an area where three or more different critically imperiled or imperiled species or ecological communities, threatened or endangered species, depleted marine mammals, or migratory waterbird concentrations co-occur.

*Non-transient Non-community Water System (NTNCWS)* means a public water system that regularly serves at least 25 of the same persons over six months per year. Examples of these systems include schools, factories, and hospitals that have their own water supplies.

*Public Water System (PWS)* means a system that provides the public water for human consumption through pipes or other constructed conveyances, if such system has at least 15 service connections or regularly serves an average of at least 25 individuals daily at least 60 days out of the year. These systems include the sources of the water supplies--i.e., surface or ground. PWS can be community, non-transient non-community, or transient non-community systems.

*Ramsar site* means a site that has been designated under The Convention on Wetlands of International Importance Especially as Waterfowl Habitat program. Ramsar sites are globally critical wetland areas that support migratory waterfowl.

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These include wetland areas that regularly support 20,000 waterfowl; wetland areas that regularly support substantial numbers of individuals from particular groups of waterfowl, indicative of wetland values, productivity, or diversity; and wetland areas that regularly support 1% of the individuals in a population of one species or subspecies of waterfowl.

*Sole source aquifer (SSA)* means an area designated by the U.S. Environmental Protection Agency under the Sole Source Aquifer program as the “sole or principal” source of drinking water for an area. Such designations are made if the aquifer's ground water supplies 50% or more of the drinking water for an area, and if that aquifer were to become contaminated, it would pose a public health hazard. A sole source aquifer that is karst in nature is one composed of limestone where the porosity is derived from connected solution cavities. They are often cavernous, with high rates of flow.

*Source Water Protection Area (SWPA)* means the area delineated by the state for a public water supply system (PWS) or including numerous PWSs, whether the source is ground water or surface water or both, as part of the state source water assessment program (SWAP) approved by EPA under section 1453 of the Safe Drinking Water Act.

*Species* means species, subspecies, population stocks, or distinct vertebrate populations.

*Terrestrial ecological community with a limited range* means a non-aquatic or non-aquatic dependent ecological community that covers less than five (5) acres.

*Terrestrial species with a limited range* means a non-aquatic or non-aquatic dependent animal or plant species that has a range of no more than five (5) acres.

*Threatened and endangered species (T&E)* means an animal or plant species that has been listed and is protected under the Endangered Species Act of 1973, as amended (ESA73) (16 U.S.C. 1531 et seq.). “Endangered species” is defined as “any species which is in danger of extinction throughout all or a significant portion of its range” (16 U.S.C. 1532). “Threatened species” is defined as “any species which is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range” (16 U.S.C. 1532).

*Transient Non-community Water System (TNCWS)* means a public water system that does not regularly serve at least 25 of the same persons over six months per year. This type of water system serves a transient population found at rest stops, campgrounds, restaurants, and parks with their own source of water.

*Wellhead Protection Area (WHPA)* means the surface and subsurface area surrounding a well or well field that supplies a public water system through which contaminants are likely to pass and eventually reach the water well or well field.

*Western Hemisphere Shorebird Reserve Network (WHSRN) site* means an area that contains migratory shorebird concentrations and has been designated as a hemispheric reserve, international reserve, regional reserve, or endangered species reserve. Hemispheric reserves host at least 500,000 shorebirds annually or 30% of a species flyway population. International reserves host 100,000 shorebirds annually or 15% of a species flyway population. Regional reserves host 20,000 shorebirds annually or 5% of a species flyway population. Endangered species reserves are critical to the survival of endangered species

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and no minimum number of birds is required.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; removed with Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; replaced with Amdt. 195-71, 65 FR 80530, Dec. 21, 2000]

### **§195.8 Transportation of hazardous liquid or carbon dioxide in pipelines constructed with other than steel pipe.**

No person may transport any hazardous liquid or carbon dioxide through a pipe that is constructed after October 1, 1970, for hazardous liquids or after July 12, 1991 for carbon dioxide of material other than steel unless the person has notified the Administrator in writing at least 90 days before the transportation is to begin. The notice must state whether carbon dioxide or a hazardous liquid is to be transported and the chemical name, common name, properties, and characteristics of the hazardous liquid to be transported and the material used in construction of the pipeline. If the Administrator determines that the transportation of the hazardous liquid or carbon dioxide in the manner proposed would be unduly hazardous, he will, within 90 days after receipt of the notice, order the person that gave the notice, in writing, not to transport the hazardous liquid or carbon dioxide in the proposed manner until further notice.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991, Amdt. 195-50, 59 FR 17275, Apr. 12, 1994]

### **§195.9 Outer continental shelf pipelines.**

Operators of transportation pipelines on the Outer Continental Shelf must identify on all their respective pipelines the specific points at which operating responsibility transfers to a producing operator. For those instances in which the transfer points are not identifiable by a durable marking, each operator will have until September 15, 1998 to identify the transfer points. If it is not practicable to durably mark a transfer point and the transfer point is located above water, the operator must depict the transfer point on a schematic maintained near the transfer point. If a transfer point is located subsea, the operator must identify the transfer point on a schematic which must be maintained at the nearest upstream facility and provided to RSPA upon request. For those cases in which adjoining operators have not agreed on a transfer point by September 15, 1998 the Regional Director and the MMS Regional Supervisor will make a joint determination of the transfer point.

[Amdt. 195-59, 62 FR 61692, Nov. 19, 1997]

### **§195.10 Responsibility of operator for compliance with this part.**

An operator may make arrangements with another person for the performance of any action required by this part. However, the operator is not thereby relieved from the responsibility for compliance with any requirement of this part.

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### Subpart B—Reporting Accidents and Safety-Related Conditions

#### §195.50 Reporting accidents.

An accident report is required for each failure in a pipeline system subject to this part in which there is a release of the hazardous liquid or carbon dioxide transported resulting in any of the following:

(a) Explosion or fire not intentionally set by the operator.

(b) Loss of 50 or more barrels (8 or more cubic meters) of liquid or carbon dioxide.

(c) Escape to the atmosphere of more than five barrels (0.8 cubic meters) a day of highly volatile liquids.

(d) Death of any person.

(e) Bodily harm to any person resulting in one or more of the following:

(1) Loss of consciousness.

(2) Necessity to carry the person from the scene.

(3) Necessity for medical treatment.

(4) Disability which prevents the discharge of normal duties or the pursuit of normal activities beyond the day of the accident.

(f) Estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981, Amdt. 195-39, 53 FR 24942, July 1, 1988; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

#### §195.52 Telephonic notice of certain accidents.

(a) At the earliest practicable moment following discovery of a release of the hazardous liquid or carbon dioxide transported resulting in an event described in §195.50, the operator of the system shall give notice, in accordance with paragraph (b) of this section, of any failure that:

(1) Caused a death or a personal injury requiring hospitalization;

(2) Resulted in either a fire or explosion not intentionally set by the operator;

(3) Caused estimated property damage, including cost of cleanup and recovery, value of lost product, and damage to the property of the operator or others, or both, exceeding \$50,000;

(4) Resulted in pollution of any stream, river, lake, reservoir, or other similar body of water that violated applicable water quality standards, caused a discoloration of the surface of the water or adjoining shoreline, or deposited a sludge or emulsion beneath the surface of the water or upon adjoining shorelines; or

(5) In the judgment of the operator was significant even though it did not meet the criteria of any other paragraph of this section.

(b) Reports made under paragraph (a) of this section are made by telephone to 800-424-8802 (in Washington, DC: 267-2675) and must include the following information:

(1) Name and address of the operator.

(2) Name and telephone number of the reporter.

(3) The location of the failure.

(4) The time of the failure.

(5) The fatalities and personal injuries, if any.



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(6) All other significant facts known by the operator that are relevant to the cause of the failure or extent of the damages.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-6, 38 FR 7121, Jan. 31, 1973; Amdt. 195-22, 46 FR 38357, July 27, 1981, Amdt. 195-23, 47 FR 32719, July 29, 1982; Amdt. 195-44, 54 FR 40878, Oct. 4, 1989; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.54 Accident reports.**

(a) Each operator that experiences an accident that is required to be reported under §195.50 shall as soon as practicable, but not later than 30 days after discovery of the accident, prepare and file an accident report on DOT Form 7000-1, or a facsimile.

(b) Whenever an operator receives any changes in the information reported or additions to the original report on DOT Form 7000-1, it shall file a supplemental report within 30 days.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985; Amdt. 195-39, 53 FR 24942, July 1, 1988]

### **§195.55 Reporting safety-related conditions.**

(a) Except as provided in paragraph (b) of this section, each operator shall report in accordance with §195.56 the existence of any of the following safety-related conditions involving pipelines in service:

(1) General corrosion that has reduced the wall thickness to less than that required

for the maximum operating pressure, and localized corrosion pitting to a degree where leakage might result.

(2) Unintended movement or abnormal loading of a pipeline by environmental causes, such as an earthquake, landslide, or flood, that impairs its serviceability.

(3) Any material defect or physical damage that impairs the serviceability of a pipeline.

(4) Any malfunction or operating error that causes the pressure of a pipeline to rise above 110 percent of its maximum operating pressure.

(5) A leak in a pipeline that constitutes an emergency.

(6) Any safety-related condition that could lead to an imminent hazard and causes (either directly or indirectly by remedial action of the operator), for purposes other than abandonment, a 20 percent or more reduction in operating pressure or shutdown of operation of a pipeline.

(b) A report is not required for any safety-related condition that—

(1) Exists on a pipeline that is more than 220 yards (200 meters) from any building intended for human occupancy or outdoor place of assembly, except that reports are required for conditions within the right-of-way of an active railroad, paved road, street, or highway, or that occur offshore or at onshore locations where a loss of hazardous liquid could reasonably be expected to pollute any stream, river, lake, reservoir, or other body of water;

(2) Is an accident that is required to be reported under §195.50 or results in such an accident before the deadline for filing the safety-related condition report; or

(3) Is corrected by repair or replacement in accordance with applicable safety standards before the deadline for filing the safety-related condition report, except that

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reports are required for all conditions under paragraph (a)(1) of this section other than localized corrosion pitting on an effectively coated and cathodically protected pipeline.

[Amdt. 195-39, 53 FR 24942, July 1, 1988 as amended by Amdt. 195-39C, 53 FR 36942, Sep. 22, 1988; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.56 Filing safety-related condition reports.**

(a) Each report of a safety-related condition under §195.55(a) must be filed (received by the Administrator) in writing within 5 working days (not including Saturdays, Sundays, or Federal holidays) after the day a representative of the operator first determines that the condition exists, but not later than 10 working days after the day a representative of the operator discovers the condition. Separate conditions may be described in a single report if they are closely related. To file a report by facsimile (fax), dial (202) 366-7128.

(b) The report must be headed "Safety-Related Condition Report" and provide the following information:

(1) Name and principal address of operator.

(2) Date of report.

(3) Name, job title, and business telephone number of person submitting the report.

(4) Name, job title, and business telephone number of person who determined that the condition exists.

(5) Date condition was discovered and date condition was first determined to exist.

(6) Location of condition, with reference to the State (and town, city, or county) or offshore site, and as appropriate nearest

street address, offshore platform, survey station number, milepost, landmark, or name of pipeline.

(7) Description of the condition, including circumstances leading to its discovery, any significant effects of the condition on safety, and the name of the commodity transported or stored.

(8) The corrective action taken (including reduction of pressure or shutdown) before the report is submitted and the planned follow-up or future corrective action, including the anticipated schedule for starting and concluding such action.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt 195-34, 50 FR 34470, Aug. 26, 1985; Amdt. 195-39, 53 FR 24942, July 1, 1988; Amdt. 195-39C, 53 FR 36942, Sep. 22, 1988; Amdt. 195-42, 54 FR 32342, Aug. 7, 1989; Amdt. 195-44, 54 FR 40878, Oct. 4, 1989; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-61, 63 FR 7721, Feb. 17, 1998]

### **§195.57 Filing offshore pipeline condition reports.**

(a) Each operator shall, within 60 days after completion of the inspection of all its underwater pipelines subject to §195.413(a), report the following information:

(1) Name and principal address of operator.

(2) Date of report.

(3) Name, job title, and business telephone number of person submitting the report.

(4) Total number of miles (kilometers) of pipeline inspected.

(5) Length and date of installation of each exposed pipeline segment, and

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location; including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.

(6) Length and date of installation of each pipeline segment, if different from a pipeline segment identified under paragraph (a)(5) of this section, that is a hazard to navigation, and the location; including, if available, the location according to the Minerals Management Service or state offshore area and block number tract.

(b) The report shall be mailed to the Information Officer, Research and Special Programs Administration, Department of Transportation, 400 Seventh Street, SW., Washington, DC 20590.

[Amdt. 195-47, 56 FR 63764, Dec. 5, 1991 as amended by Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.58 Address for written reports.**

Each written report required by this subpart must be made to the Information Resources Manager, Office of Pipeline Safety, Research and Special Programs Administration, U.S. Department of Transportation, Room 2335, 400 Seventh Street SW., Washington, DC 20590. However, accident reports for intrastate pipelines subject to the jurisdiction of a State agency pursuant to a certification under the pipeline safety laws (49 U.S.C. 60101 *et seq.*) may be submitted in duplicate to that State agency if the regulations of that agency require submission of these reports and provide for further transmittal of one copy within 10 days of receipt to the Information Resources Manager. Safety-related condition reports required by §195.55 for intrastate pipelines must be

submitted concurrently to the State agency, and if that agency acts as an agent of the Secretary with respect to interstate pipelines, safety-related condition reports for these pipelines must be submitted concurrently to that agency.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-22, 46 FR 38357, July 27, 1981, Amdt. 195-23, 47 FR 32719, July 29, 1982; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985; Amdt. 195-39, 53 FR 24942, July 1, 1988; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-55, 61 FR 18512, Apr. 26, 1996]

### **§195.59 Abandoned underwater facilities report.**

For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through a commercially navigable waterway, the last operator of that facility must file a report upon abandonment of that facility.

(a) The preferred method to submit data on pipeline facilities abandoned after October 10, 2000 is to the National Pipeline Mapping System (NPMS) in accordance with the NPMS “Standards for Pipeline and Liquefied Natural Gas Operator Submissions.” To obtain a copy of the NPMS Standards, please refer to the NPMS homepage at [www.npms.rspa.dot.gov](http://www.npms.rspa.dot.gov) or contact the NPMS National Repository at 703-317-3073. A digital data format is preferred, but hard copy submissions are acceptable if they comply with the NPMS Standards. In addition to the NPMS-required attributes, operators must submit the date of abandonment, diameter, method of abandonment, and certification that, to the best of the operator's knowledge, all of the

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reasonably available information requested was provided and, to the best of the operator's knowledge, the abandonment was completed in accordance with applicable laws. Refer to the NPMS Standards for details in preparing your data for submission. The NPMS Standards also include details of how to submit data. Alternatively, operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, [roger.little@rspa.dot.gov](mailto:roger.little@rspa.dot.gov). The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

(b) Data on pipeline facilities abandoned before October 10, 2000 must be filed by before April 10, 2001. Operators may submit reports by mail, fax or e-mail to the Information Officer, Research and Special Programs Administration, Department of Transportation, Room 7128, 400 Seventh Street, SW, Washington DC 20590; fax (202) 366-4566; e-mail, [roger.little@rspa.dot.gov](mailto:roger.little@rspa.dot.gov). The information in the report must contain all reasonably available information related to the facility, including information in the possession of a third party. The report must contain the location, size, date, method of abandonment, and a certification that the facility has been abandoned in accordance with all applicable laws.

[Amdt. 195-69, 65 FR 54440, Sept. 8, 2000]

### **§195.60 Operator assistance in investigation.**

If the Department of Transportation investigates an accident, the operator involved shall make available to the representative of the Department all records and information that in any way pertain to the accident, and shall afford all reasonable assistance in the investigation of the accident.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.62 Supplies of accident report DOT Form 7000-1.**

Each operator shall maintain an adequate supply of forms that are a facsimile of DOT Form 7000-1 to enable it to promptly report accidents. The Department will, upon request, furnish specimen copies of the form. Requests should be addressed to the Information Resources Manager, Office of Pipeline Safety, Department of Transportation, Washington, DC 20590.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-23, 47 FR 32719, July 29, 1982]

### **§195.63 OMB control number assigned to information collection.**

The control number assigned by the Office of Management and Budget to the hazardous liquid pipeline information collection requirements of this part pursuant to the Paperwork Reduction Act of 1980 is 2137-0047.

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[Amdt. 195-34, 50 FR 34470, Aug. 26, 1985]

### Subpart C—Design Requirements

#### §195.100 Scope.

This subpart prescribes minimum design requirements for new pipeline systems constructed with steel pipe and for relocating, replacing, or otherwise changing existing systems constructed with steel pipe. However, it does not apply to the movement of line pipe covered by §195.424.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

#### §195.101 Qualifying metallic components other than pipe.

Notwithstanding any requirement of the subpart which incorporates by reference an edition of a document listed in §195.3, a metallic component other than pipe manufactured in accordance with any other edition of that document is qualified for use if-

- (a) It can be shown through visual inspection of the cleaned component that no defect exists which might impair the strength or tightness of the component; and
- (b) The edition of the document under which the component was manufactured has equal or more stringent requirements for the following as an edition of that document currently or previously listed in §195.3:

- (1) Pressure testing;
- (2) Materials; and,
- (3) Pressure and temperature ratings.

[Amdt. 195-28, 48 FR 30637, July 5, 1983]

#### §195.102 Design temperature.

(a) Material for components of the system must be chosen for the temperature environment in which the components will be used so that the pipeline will maintain its structural integrity.

(b) Components of carbon dioxide pipelines that are subject to low temperatures during normal operation because of rapid pressure reduction or during the initial fill of the line must be made of materials that are suitable for those low temperatures.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991]

#### §195.104 Variations in pressure.

If, within a pipeline system, two or more components are to be connected at a place where one will operate at a higher pressure than another, the system must be designed so that any component operating at the lower pressure will not be overstressed.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

#### §195.106 Internal design pressure.

(a) Internal design pressure for the pipe in a pipeline is determined in accordance with the following formula:

$$P = (2 St/D) \times E \times F$$

$P$  = Internal design pressure in p.s.i. (kPa) gage.

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$S$  = Yield strength in pounds per square inch (kPa) determined in accordance with paragraph (b) of this section.

$t$  = Nominal wall thickness of the pipe in inches (millimeters). If this is unknown, it is determined in accordance with paragraph (c) of this section.

$D$  = Nominal outside diameter of the pipe in inches (millimeters).

$E$  = Seam joint factor determined in accordance with paragraph (e) of this section.

$F$  = A design factor of 0.72, except that a design factor of 0.60 is used for pipe, including risers, on a platform located offshore or on a platform in inland navigable waters, and 0.54 is used for pipe that has been subjected to cold expansion to meet the specified minimum yield strength and is subsequently heated, other than by welding or stress relieving as a part of welding, to a temperature higher than 900°F (482°C) for any period of time or over 600°F (316°C) for more than 1 hour.

(b) The yield strength to be used in determining the internal design pressure under paragraph (a) of this section is the specified minimum yield strength. If the specified minimum yield strength is not known, the yield strength to be used in the design formula is one of the following:

(1)(i) The yield strength determined by performing all of the tensile tests of API Specification 5L on randomly selected specimens with the following number of tests:

Pipe size	Number of tests
Less than 6 5/8 in (168 mm) nominal outside diameter.	One test for each 200 lengths.
6 5/8 through 12 3/4 in (168 through 323 mm) nominal outside diameter.	One test for each 100 lengths.
Larger than 12 3/4 in (324 mm) nominal outside diameter.	One test for each 50 lengths.

(ii) If the average yield-tensile ratio exceeds 0.85, the yield strength shall be taken as 24,000 p.s.i. (165,474 kPa). If the average yield-tensile ratio is 0.85 or less, the yield strength of the pipe is taken as the lower of the following:

(A) Eighty percent of the average yield strength determined by the tensile tests.

(B) The lowest yield strength determined by the tensile tests.

(2) If the pipe is not tensile tested as provided in paragraph (b) of this section, the yield strength shall be taken as 24,000 p.s.i. (165,474 kPa).

(c) If the nominal wall thickness to be used in determining internal design pressure under paragraph (a) of this section is not known, it is determined by measuring the thickness of each piece of pipe at quarter points on one end. However, if the pipe is of uniform grade, size, and thickness, only 10 individual lengths or 5 percent of all lengths, whichever is greater, need be measured. The thickness of the lengths that are not measured must be verified by applying a gage set to the minimum thickness found by the measurement. The nominal wall thickness to be used is the next wall thickness found in commercial specifications that is below the average of all the measurements taken. However, the nominal wall thickness may not be more than 1.14 times the smallest measurement taken on pipe that is less than 20 inches (508

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mm) nominal outside diameter, nor more than 1.11 times the smallest measurement taken on pipe that is 20 inches (508 mm) or more in nominal outside diameter.

(d) The minimum wall thickness of the pipe may not be less than 87.5 percent of the value used for nominal wall thickness in determining the internal design pressure under paragraph (a) of this section. In addition, the anticipated external loads and external pressures that are concurrent with internal pressure must be considered in accordance with §§195.108 and 195.110 and, after determining the internal design pressure, the nominal wall thickness must be increased as necessary to compensate for these concurrent loads and pressures.

(e) The seam joint factor used in paragraph (a) of this section is determined in accordance with the following table:

Specification	Pipe class	Seam joint factor
ASTM A53	Seamless	1.00
	Electric resistance welded	1.00
	Furnace lap welded	0.80
	Furnace butt welded	0.60
ASTM 106	Seamless	1.00
ASTM A333/A333M	Seamless	1.00
	Welded	1.00
ASTM A381	Double submerged arc welded	1.00
ASTM A671	Electric-fusion welded	1.00
ASTM A672	Electric-fusion welded	1.00
ASTM A691	Electric-fusion welded	1.00
API 5L	Seamless	1.00
	Electric resistance welded	1.00
	Electric flash welded	1.00
	Submerged arc welded.	1.00
	Furnace lap welded	0.80
	Furnace butt welded	0.60

The seam joint factor for pipe which is not covered by this paragraph must be approved by the Administrator.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-21, 46 FR 10157, Feb. 2, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-30, 49 FR 7567, Mar. 1, 1984; Amdt. 195-37, 51 FR 15333, Apr. 23, 1986; Amdt. 195-40, 54 FR 5625, Feb. 6, 1989; Amdt. 195-48, 58 FR 14519, Mar. 18, 1993; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### §195.108 External pressure.

Any external pressure that will be exerted on the pipe must be provided for in designing a pipeline system.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.110 External loads.

(a) Anticipated external loads, e.g., earthquakes, vibration, thermal expansion, and contraction must be provided for in designing a pipeline system. In providing for expansion and flexibility, section 419 of ASME/ANSI B31.4 must be followed.

(b) The pipe and other components must be supported in such a way that the support does not cause excess localized stresses. In designing attachments to pipe, the added stress to the wall of the pipe must be computed and compensated for.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-9, 41 FR 13590, Mar. 31, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-48, 58 FR 14519, Mar. 18, 1993]

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### §195.111 Fracture propagation.

A carbon dioxide pipeline system must be designed to mitigate the effects of fracture propagation.

[Amdt. 195-45, 56 FR 26922, June 12, 1991]

### §195.112 New pipe.

Any new pipe installed in a pipeline system must comply with the following:

(a) The pipe must be made of steel of the carbon, low alloy-high strength, or alloy type that is able to withstand the internal pressures and external loads and pressures anticipated for the pipeline system.

(b) The pipe must be made in accordance with a written pipe specification that sets forth the chemical requirements for the pipe steel and mechanical tests for the pipe to provide pipe suitable for the use intended.

(c) Each length of pipe with a nominal outside diameter of 4½ in (114.3 mm) or more must be marked on the pipe or pipe coating with the specification to which it was made, the specified minimum yield strength or grade, and the pipe size. The marking must be applied in a manner that does not damage the pipe or pipe coating and must remain visible until the pipe is installed.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### §195.114 Used pipe.

Any used pipe installed in a pipeline system must comply with §195.112(a) and (b) and the following:

(a) The pipe must be of a known specification and the seam joint factor must be determined in accordance with §195.106(e). If the specified minimum yield strength or the wall thickness is not known, it is determined in accordance with §195.106(b) or (c) as appropriate.

(b) There may not be any:

(1) Buckles;

(2) Cracks, grooves, gouges, dents, or other surface defects that exceed the maximum depth of such a defect permitted by the specification to which the pipe was manufactured; or

(3) Corroded areas where the remaining wall thickness is less than the minimum thickness required by the tolerances in the specification to which the pipe was manufactured. However, pipe that does not meet the requirements of paragraph (b)(3) of this section may be used if the operating pressure is reduced to be commensurate with the remaining wall thickness.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.116 Valves.

Each valve installed in a pipeline system must comply with the following:

(a) The valve must be of a sound engineering design.

(b) Materials subject to the internal pressure of the pipeline system, including welded and flanged ends, must be



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compatible with the pipe or fittings to which the valve is attached.

(c) Each part of the valve that will be in contact with the carbon dioxide or hazardous liquid stream must be made of materials that are compatible with carbon dioxide or each hazardous liquid that it is anticipated will flow through the pipeline system.

(d) Each valve must be both hydrostatically shell tested and hydrostatically seat tested without leakage to at least the requirements set forth in Section 5 of API Standard 6D.

(e) Each valve other than a check valve must be equipped with a means for clearly indicating the position of the valve (open, closed, etc.).

(f) Each valve must be marked on the body or the nameplate, with at least the following:

- (1) Manufacturer's name or trademark.
- (2) Class designation or the maximum working pressure to which the valve may be subjected.
- (3) Body material designation (the end connection material, if more than one type is used).
- (4) Nominal valve size.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-9, 41 FR 13590, Mar. 31, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991]

### 195.118 Fittings.

(a) Butt-welding type fittings must meet the marking, end preparation, and the bursting strength requirements of ASME/ANSI B16.9 or MSS Standard Practice SP-75.

(b) There may not be any buckles, dents, cracks, gouges, or other defects in the fitting that might reduce the strength of the fitting.

(c) The fitting must be suitable for the intended service and be at least as strong as the pipe and other fittings in the pipeline system to which it is attached.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-9, 41 FR 13590, Mar. 31, 1976; Amdt. 195-21, 46 FR 10157, Feb. 2, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; 47 FR 32721, July 29, 1982, Amdt. 195-48, 58 FR 14519, Mar. 18, 1993]

### §195.120 Passage of internal inspection devices.

(a) Except as provided in paragraphs (b) and (c) of this section, each new pipeline and each line section of a pipeline where the line pipe, valve, fitting or other line component is replaced; must be designed and constructed to accommodate the passage of instrumented internal inspection devices.

(b) This section does not apply to:

- (1) Manifolds;
- (2) Station piping such as at pump stations, meter stations, or pressure reducing stations;
- (3) Piping associated with tank farms and other storage facilities;
- (4) Cross-overs;
- (5) Sizes of pipe for which an instrumented internal inspection device is not commercially available;
- (6) Offshore pipelines, other than main lines 10 inches (254 millimeters) or greater in nominal diameter, that transport liquids to onshore facilities; and,
- (7) Other piping that the Administrator under §190.9 of this chapter, finds in a particular case would be impracticable to

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design and construct to accommodate the passage of instrumented internal inspection devices.

(c) An operator encountering emergencies, construction time constraints and other unforeseen construction problems need not construct a new or replacement segment of a pipeline to meet paragraph (a) of this section, if the operator determines and documents why an impracticability prohibits compliance with paragraph (a) of this section. Within 30 days after discovering the emergency or construction problem the operator must petition, under §190.9 of this chapter, for approval that design and construction to accommodate passage of instrumented internal inspection devices would be impracticable. If the petition is denied, within 1 year after the date of the notice of the denial, the operator must modify that segment to allow passage of instrumented internal inspection devices.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.122 Fabricated branch connections.**

Each pipeline system must be designed so that the addition of any fabricated branch connections will not reduce the strength of the pipeline system.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.124 Closures.**

Each closure to be installed in a pipeline system must comply with the ASME Boiler

and Pressure Vessel Code, Section VIII, Pressure Vessels, Division 1, and must have pressure and temperature ratings at least equal to those of the pipe to which the closure is attached.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-9, 41 FR 13590, Mar. 31, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.126 Flange connection.**

Each component of a flange connection must be compatible with each other component and the connection as a unit must be suitable for the service in which it is to be used.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.128 Station piping.**

Any pipe to be installed in a station that is subject to system pressure must meet the applicable requirements of this subpart.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.130 Fabricated assemblies.**

Each fabricated assembly to be installed in a pipeline system must meet the applicable requirements of this subpart.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

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### **§195.132 Design and construction of aboveground breakout tanks.**

(a) Each aboveground breakout tank must be designed and constructed to withstand the internal pressure produced by the hazardous liquid to be stored therein and any anticipated external loads.

(b) For aboveground breakout tanks first placed in service after October 2, 2000, compliance with paragraph (a) of this section requires one of the following:

(1) Shop-fabricated, vertical, cylindrical, closed top, welded steel tanks with nominal capacities of 90 to 750 barrels (14.3 to 119.2 m<sup>3</sup>) and with internal vapor space pressures that are approximately atmospheric must be designed and constructed in accordance with API Specification 12F.

(2) Welded, low-pressure (i.e., internal vapor space pressure not greater than 15 psig (103.4 kPa)), carbon steel tanks that have wall shapes that can be generated by a single vertical axis of revolution must be designed and constructed in accordance with API Standard 620.

(3) Vertical, cylindrical, welded steel tanks with internal pressures at the tank top approximating atmospheric pressures (i.e., internal vapor space pressures not greater than 2.5 psig (17.2 kPa), or not greater than the pressure developed by the weight of the tank roof) must be designed and constructed in accordance with API Standard 650.

(4) High pressure steel tanks (i.e., internal gas or vapor space pressures greater than 15 psig (103.4 kPa)) with a nominal capacity of 2000 gallons (7571 liters) or more of liquefied petroleum gas (LPG) must be designed and constructed in accordance with API Standard 2510.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-66, 64 FR 15926, April 2, 1999]

### **§195.134 CPM leak detection.**

This section applies to each hazardous liquid pipeline transporting liquid in single phase (without gas in the liquid). On such systems, each new computational pipeline monitoring (CPM) leak detection system and each replaced component of an existing CPM system must comply with section 4.2 of API 1130 in its design and with any other design criteria addressed in API 1130 for components of the CPM leak detection system.

Amdt. 195-62, 63 FR 36373, July 6, 1998

## **Subpart D—Construction**

### **§195.200 Scope.**

This subpart prescribes minimum requirements for constructing new pipeline systems with steel pipe, and for relocating, replacing, or otherwise changing existing pipeline systems that are constructed with steel pipe. However, this subpart does not apply to the movement of pipe covered by §195.424.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.202 Compliance with specifications or standards.**

Each pipeline system must be constructed in accordance with

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comprehensive written specifications or standards that are consistent with the requirements of this part.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.204 Inspection – general.**

Inspection must be provided to ensure the installation of pipe or pipeline systems in accordance with the requirements of this subpart. No person may be used to perform inspections unless that person has been trained and is qualified in the phase of construction to be inspected.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.205 Repair, alteration and reconstruction of aboveground breakout tanks that have been in service.**

(a) Aboveground breakout tanks that have been repaired, altered, or reconstructed and returned to service must be capable of withstanding the internal pressure produced by the hazardous liquid to be stored therein and any anticipated external loads.

(b) After October 2, 2000, compliance with paragraph (a) of this section requires the following for the tanks specified:

(1) For tanks designed for approximately atmospheric pressure constructed of carbon and low alloy steel, welded or riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C, repair, alteration, and reconstruction must be in accordance with API Standard 653.

(2) For tanks built to API Specification 12F or API Standard 620, the repair, alteration, and reconstruction must be in accordance with the design, welding, examination, and material requirements of those respective standards.

(3) For high pressure tanks built to API Standard 2510, repairs, alterations, and reconstruction must be in accordance with API 510.

Amdt. 195-66, 64 FR 15926, April 2, 1999

### **§195.206 Material inspection.**

No pipe or other component may be installed in a pipeline system unless it has been visually inspected at the site of installation to ensure that it is not damaged in a manner that could impair its strength or reduce its serviceability.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.208 Welding of supports and braces.**

Supports or braces may not be welded directly to pipe that will be operated at a pressure of more than 100 p.s.i. (689 kPa) gage.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.210 Pipeline location.**

(a) Pipeline right-of-way must be selected to avoid, as far as practicable, areas

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containing private dwellings, industrial buildings, and places of public assembly.

(b) No pipeline may be located within 50 feet (15 meters) of any private dwelling, or any industrial building or place of public assembly in which persons work, congregate, or assemble, unless it is provided with at least 12 inches (305 millimeters) of cover in addition to that prescribed in §195.248.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### §195.212 Bending of pipe.

(a) Pipe must not have a wrinkle bend.

(b) Each field bend must comply with the following:

(1) A bend must not impair the serviceability of the pipe.

(2) Each bend must have a smooth contour and be free from buckling, cracks, or any other mechanical damage.

(3) On pipe containing a longitudinal weld, the longitudinal weld must be as near as practicable to the neutral axis of the bend unless—

(i) The bend is made with an internal bending mandrel; or

(ii) The pipe is 12¾ in (324 mm) or less nominal outside diameter or has a diameter to wall thickness ratio less than 70.

(c) Each circumferential weld which is located where the stress during bending causes a permanent deformation in the pipe must be nondestructively tested either before or after the bending process.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-10, 41 FR 26016, Aug. 16, 1976; Amdt. 195-12, 42 FR 42865, Aug. 25, 1977;

Amdt. 195-12C, 42 FR 60148, Nov. 25, 1977; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### §195.214 Welding: General.

(a) Welding must be performed by a qualified welder in accordance with welding procedures qualified to produce welds meeting the requirements of this subpart. The quality of the test welds used to qualify the procedure shall be determined by destructive testing.

(b) Each welding procedure must be recorded in detail, including the results of the qualifying tests. This record must be retained and followed whenever the procedure is used.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-38, 51 FR 20294, June 4, 1986]

### §195.216 Welding: Miter joints.

A miter joint is not permitted (not including deflections up to 3° that are caused by misalignment).

[Amdt. 195-10, 41 FR 26016, Aug. 16, 1976 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.218 [Removed]

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

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### **§195.220 [Removed]**

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-25, 47 FR 55396, Dec. 9, 1982]

### **§195.222 Welders: Qualification of welders.**

Each welder must be qualified in accordance with section 3 of API Standard 1104 or section IX of the ASME Boiler and Pressure Vessel Code, except that a welder qualified under an earlier edition than listed in §195.3 may weld but may not requalify under that earlier edition.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-8, 40 FR 10181, Mar. 5, 1975; Amdt. 195-8A, 40 FR 27222, June 27, 1975; Amdt. 195-21, 46 FR 10157, Feb. 2, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-32, 49 FR 36859, Sep. 20, 1984; Amdt. 195-38, 51 FR 20294, June 4, 1986]

### **§195.224 Welding: Weather.**

Welding must be protected from weather conditions that would impair the quality of the completed weld.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.226 Welding: Arc burns.**

- (a) Each arc burn must be repaired.
- (b) An arc burn may be repaired by completely removing the notch by grinding, if the grinding does not reduce the remaining wall thickness to less than the minimum

thickness required by the tolerances in the specification to which the pipe is manufactured. If a notch is not repairable by grinding, a cylinder of the pipe containing the entire notch must be removed.

- (c) A ground may not be welded to the pipe or fitting that is being welded.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.228 Welds and welding inspection: Standards of acceptability.**

- (a) Each weld and welding must be inspected to insure compliance with the requirements of this subpart. Visual inspection must be supplemented by nondestructive testing.

- (b) The acceptability of a weld is determined according to the standards in section 6 of API Standard 1104. However, if a girth weld is unacceptable under those standards for a reason other than crack, and if the Appendix to API Standard 1104 applies to the weld, the acceptability of the weld may be determined under that appendix.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-8, 40 FR 10181, Mar. 5, 1975; Amdt. 195-8A, 40 FR 27222, June 27, 1975; Amdt. 195-21, 46 FR 10157, Feb. 2, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.230 Welds: Repair or removal of defects.**

- (a) Each weld that is unacceptable under §195.228 must be removed or repaired. Except for welds on an offshore pipeline

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being installed from a pipe lay vessel, a weld must be removed if it has a crack that is more than 8 percent of the weld length.

(b) Each weld that is repaired must have the defect removed down to sound metal and the segment to be repaired must be preheated if conditions exist which would adversely affect the quality of the weld repair. After repair, the segment of the weld that was repaired must be inspected to ensure its acceptability.

(c) Repair of a crack, or of any defect in a previously repaired area must be in accordance with written weld repair procedures that have been qualified under §195.214. Repair procedures must provide that the minimum mechanical properties specified for the welding procedure used to make the original weld are met upon completion of the final weld repair.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-29, 48 FR 48669, Oct. 20, 1983]

### §195.232 [Removed]

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-29, 48 FR 48669, Oct. 20, 1983]

### §195.234 Welds: Nondestructive testing.

(a) A weld may be nondestructively tested by an process that will clearly indicate any defects that may affect the integrity of the weld.

(b) Any nondestructive testing of welds must be performed—

(1) In accordance with a written set of procedures for nondestructive testing; and

(2) With personnel that have been trained in the established procedures and in the use of the equipment employed in the testing.

(c) Procedures for the proper interpretation of each weld inspection must be established to ensure the acceptability of the weld under §195.228.

(d) During construction, at least 10 percent of the girth welds made by each welder during each welding day must be nondestructively tested over the entire circumference of the weld.

(e) All girth welds installed each day in the following locations must be nondestructively tested over their entire circumference, except that when nondestructive testing is impracticable for a girth weld, it need not be tested if the number of girth welds for which testing is impracticable does not exceed 10 percent of the girth welds installed that day:

(1) At any onshore location where a loss of hazardous liquid could reasonably be expected to pollute any stream, river, lake, reservoir, or other body of water, and any offshore area;

(2) Within railroad or public road rights-of-way;

(3) At overhead road crossings and within tunnels;

(4) Within the limits of any incorporated subdivision of a State government; and,

(5) Within populated areas, including, but not limited to, residential subdivisions, shopping centers, schools, designated commercial areas, industrial facilities, public institutions, and places of public assembly.

(f) When installing used pipe, 100 percent of the old girth welds must be nondestructively tested.

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(g) At pipeline tie-ins, including tie-ins of replacement sections, 100 percent of the girth welds must be nondestructively tested.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-26, 48 FR 9013, Mar. 3, 1983; Amdt. 195-35, 50 FR 37191, Sep. 12, 1985; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.236 External corrosion protection.**

Each component in the pipeline system must be provided with protection against external corrosion.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.238 External coating.**

(a) No pipeline system component may be buried or submerged unless that component has an external protective coating that—

(1) Is designed to mitigate corrosion of the buried or submerged component;

(2) Has sufficient adhesion to the metal surface to prevent underfilm migration of moisture;

(3) Is sufficiently ductile to resist cracking;

(4) Has enough strength to resist damage due to handling and soil stress; and,

(5) Supports any supplemental cathodic protection.

In addition, if any insulating-type coating is used it must have low moisture absorption and provide high electrical resistance.

(b) All pipe coating must be inspected just prior to lowering the pipe into the ditch or submerging the pipe, and any damage discovered must be repaired.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.242 Cathodic protection system.**

(a) A cathodic protection system must be installed for all buried or submerged facilities to mitigate corrosion that might result in structural failure. A test procedure must be developed to determine whether adequate cathodic protection has been achieved.

(b) A cathodic protection system must be installed not later than 1 year after completing the construction.

(c) For the bottoms of aboveground breakout tanks with greater than 500 barrels (79.5 m<sup>3</sup>) capacity built to API Specification 12F, API Standard 620, or API Standard 650 (or its predecessor Standard 12C), the installation of a cathodic protection system under paragraph (a) of this section after October 2, 2000, must be in accordance with API Recommended Practice 651, unless the operator notes in the procedural manual (§195.402(c)) why compliance with all or certain provisions of API Recommended Practice 651 is not necessary for the safety of a particular breakout tank.

(d) For the internal bottom of aboveground breakout tanks built to API Specification 12F, API Standard 620, or API Standard 650 (or its predecessor Standard 12C), the installation of a tank bottom lining after October 2, 2000, must be in accordance with API Recommended Practice 652, unless the operator notes in the procedural



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manual (§195.402(c)) why compliance with all or certain provisions of API Recommended Practice 652 is not necessary for the safety of a particular breakout tank.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-66, 64 FR 15926, April 2, 1999]

### §195.244 Test leads.

(a) Except for offshore pipelines, electrical test leads used for corrosion control or electrolysis testing must be installed at intervals frequent enough to obtain electrical measurements indicating the adequacy of the cathodic protection.

(b) Test leads must be installed as follows:

(1) Enough looping or slack must be provided to prevent test leads from being unduly stressed or broken during backfilling.

(2) Each lead must be attached to the pipe so as to prevent stress concentration on the pipe.

(3) Each lead installed in a conduit must be suitably insulated from the conduit.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.246 Installation of pipe in a ditch.

(a) All pipe installed in a ditch must be installed in a manner that minimized the introduction of secondary stresses and the possibility of damage to the pipe.

(b) Except for pipe in the Gulf of Mexico and its inlets, all offshore pipe in water at least 3.7 m (12 ft) deep but not

more than 61 m (200 ft) deep, as measured from the mean low tide, must be installed so that the top of the pipe is below the natural bottom unless the pipeline is supported by stanchions, held in place by anchors or heavy concrete coating, or protected by an equivalent means.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### §195.248 Cover over buried pipeline.

(a) Unless specifically exempted in this subpart, all pipe must be buried so that it is below the level of cultivation. Except as provided in paragraph (b) of this section, the pipe must be installed so that the cover between the top of the pipe and the ground level, road bed, river bottom, or sea bottom, as applicable, complies with the following table:

Location	Cover	
	(inches)	(millimeters)
	For normal excavation	For rock excavation <sup>1</sup>
Industrial, commercial, and residential areas	36 (914)	30 (762)
Crossings of inland bodies of water with a width of at least 100 ft (30 m) from high water mark to high water mark	48 (1219)	18 (457)
Drainage ditches at public roads and railroads	36 (914)	36 (914)
Deepwater port safety zone	48 (1219)	24 (610)
Gulf of Mexico and its inlets and other offshore areas under water less than 12 ft (3.7 m) deep as measured from the mean low tide	36 (914)	18 (457)
Any other area	30 (762)	18 (457)

<sup>1</sup> Rock excavation is any excavation that requires blasting or removal by equivalent means.

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(b) Except for the Gulf of Mexico and its inlets, less cover than the minimum required by paragraph (a) of this section and §195.210 may be used if–

(1) It is impracticable to comply with the minimum cover requirements; and

(2) Additional protection is provided that is equivalent to the minimum required cover.

[Amdt. 195-22, 46 FR 38357, July 27, 1981; 47 FR 32721, July 29, 1982, as amended by Amdt. 195-52, 59 FR 33388, June 28, 1994; 59 FR 36256, July 15, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.250 Clearance between pipe and underground structures.**

Any pipe installed underground must have at least 12 inches (305 millimeters) of clearance between the outside of the pipe and the extremity of any other underground structure, except that for drainage tile the minimum clearance may be less than 12 inches (305 millimeters) but not less than 2 inches (51 millimeters). However, where 12 inches (305 millimeters) of clearance is impracticable, the clearance may be reduced if adequate provisions are made for corrosion control.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.252 Backfilling.**

Backfilling must be performed in a manner that protects any pipe coating and provides firm support for the pipe.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.254 Aboveground components.**

(a) Any component may be installed aboveground in the following situations, if the other applicable requirements of this part are complied with:

(1) Overhead crossings of highways, railroads, or a body of water.

(2) Spans over ditches and gullies.

(3) Scraper traps or block valves.

(4) Areas under the direct control of the operator.

(5) In any area inaccessible to the public.

(b) Each component covered by this section must be protected from the forces exerted by the anticipated loads.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.256 Crossing of railroads and highways.**

The pipe at each railroad or highway crossing must be installed so as to adequately withstand the dynamic forces exerted by anticipated traffic loads.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

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### §195.258 Valves: General.

(a) Each valve must be installed in a location that is accessible to authorized employees and that is protected from damage or tampering.

(b) Each submerged valve located offshore or in inland navigable waters must be marked, or located by conventional survey techniques, to facilitate quick location when operation of the valve is required.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.260 Valves: Location.

A valve must be installed at each of the following locations:

(a) On the suction end and the discharge end of a pump station in a manner that permits isolation of the pump station equipment in the event of an emergency.

(b) On each line entering or leaving a breakout storage tank area in a manner that permits isolation of the tank area from other facilities.

(c) On each mainline at locations along the pipeline system that will minimize damage or pollution from accidental hazardous liquid discharge, as appropriate for the terrain in open country, for offshore areas, or for populated areas.

(d) On each lateral takeoff from a trunk line in a manner that permits shutting off the lateral without interrupting the flow in the trunk line.

(e) On each side of a water crossing that is more than 100 feet (30 meters) wide from high-water mark to high-water mark unless the Administrator finds in a particular case that valves are not justified.

(f) On each side of a reservoir holding water for human consumption.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-5, 38 FR 2977, Jan. 31, 1973; Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-50, 59 FR 17275, Apr. 12, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### §195.262 Pumping equipment.

(a) Adequate ventilation must be provided in pump station buildings to prevent the accumulation of hazardous vapors. Warning devices must be installed to warn of the presence of hazardous vapors in the pumping station building.

(b) The following must be provided in each pump station:

(1) Safety devices that prevent overpressuring of pumping equipment, including the auxiliary pumping equipment within the pumping station.

(2) A device for the emergency shutdown of each pumping station.

(3) If power is necessary to actuate the safety devices, an auxiliary power supply.

(c) Each safety device must be tested under conditions approximating actual operations and found to function properly before the pumping station may be used.

(d) Except for offshore pipelines, pumping equipment must be installed on property that is under the control of the operator and at least 15.2 m (50 ft) from the boundary of the pump station.

(e) Adequate fire protection must be installed at each pump station. If the fire protection system installed requires the use of pumps, motive power must be provided for those pumps that is separate from the power that operates the station.

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[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.264 Impoundment, protection against entry, normal/emergency venting or pressure/vacuum relief for aboveground breakout tanks.**

(a) A means must be provided for containing hazardous liquids in the event of spillage or failure of an aboveground breakout tank.

(b) After October 2, 2000, compliance with paragraph (a) of this section requires the following for the aboveground breakout tanks specified:

(1) For tanks built to API Specification 12F, API Standard 620, and others (such as API Standard 650 or its predecessor Standard 12C), the installation of impoundment must be in accordance with the following sections of NFPA 30:

(i) Impoundment around a breakout tank must be installed in accordance with Section 2-3.4.3; and

(ii) Impoundment by drainage to a remote impounding area must be installed in accordance with Section 2-3.4.2.

(2) For tanks built to API Standard 2510, the installation of impoundment must be in accordance with Section 3 or 9 of API Standard 2510.

(c) Aboveground breakout tank areas must be adequately protected against unauthorized entry.

(d) Normal/emergency relief venting must be provided for each atmospheric pressure breakout tank. Pressure/vacuum-relieving devices must be provided for each low-pressure and high-pressure breakout tank.

(e) For normal/emergency relief venting and pressure/vacuum-relieving devices installed on aboveground breakout tanks after October 2, 2000, compliance with paragraph (d) of this section requires the following for the tanks specified:

(1) Normal/emergency relief venting installed on atmospheric pressure tanks built to API Specification 12F must be in accordance with Section 4, and Appendices B and C, of API Specification 12F.

(2) Normal/emergency relief venting installed on atmospheric pressure tanks (such as those built to API Standard 650 or its predecessor Standard 12C) must be in accordance with API Standard 2000.

(3) Pressure-relieving and emergency vacuum-relieving devices installed on low pressure tanks built to API Standard 620 must be in accordance with Section 7 of API Standard 620 and its references to the normal and emergency venting requirements in API Standard 2000.

(4) Pressure and vacuum-relieving devices installed on high pressure tanks built to API Standard 2510 must be in accordance with Sections 5 or 9 of API Standard 2510.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-66, 64 FR 15926, April 2, 1999]

### **§195.266 Construction records.**

A complete record that shows the following must be maintained by the operator involved for the life of each pipeline facility:

(a) The total number of girth welds and the number nondestructively tested, including the number rejected and the disposition of each rejected weld.

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(b) The amount, location, and cover of each size of pipe installed.

(c) The location of each crossing of another pipeline.

(d) The location of each buried utility crossing.

(e) The location of each overhead crossing.

(f) The location of each valve and corrosion test station.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985]

### Subpart E—Pressure Testing

#### §195.300 Scope.

This subpart prescribes minimum requirements for the pressure testing of steel pipelines. However, this subpart does not apply to the movement of pipe under §195.424.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-17, 45 FR 59161, Sep. 8, 1980; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-51, 59 FR 29379, June 7, 1994]

#### §195.302 General requirements.

(a) Except as otherwise provided in this section and in §195.305(b), no operator may operator a pipeline unless it has been pressure tested under this subpart without leakage. In addition, no operator may return to service a segment of pipeline that has been replaced, relocated, or otherwise

changed until it has been pressure tested under this subpart without leakage.

(b) Except for pipelines converted under §195.5, the following pipelines may be operated without pressure testing under this subpart:

(1) Any hazardous liquid pipeline whose maximum operating pressure is established under §195.406(a)(5) that is—

(i) An interstate pipeline constructed before January 8, 1971;

(ii) An interstate offshore gathering line constructed before August 1, 1977;

(iii) An intrastate pipeline constructed before October 21, 1985; or

(iv) A low-stress pipeline constructed before August 11, 1994, that transports HVL.

(2) Any carbon dioxide pipeline constructed before July 12, 1991, that—

(i) Has its maximum operating pressure established under §195.406(a)(5); or

(ii) Is located in a rural area as part of a production field distribution system.

(3) Any low-stress pipeline constructed before August 11, 1994, that does not transport HVL.

(4) Those portions of older hazardous liquid and carbon dioxide pipelines for which an operator has elected the risk-based alternative under §195.303 and which are not required to be tested based on the risk-based criteria.

(c) Except for pipelines that transport HVL onshore, low-stress pipelines, and pipelines covered under §195.303, the following compliance deadlines apply to pipelines under paragraphs (b)(1) and (b)(2)(i) of this section that have not been pressure tested under this subpart:

(1) Before December 7, 1998, for each pipeline each operator shall—

(i) Plan and schedule testing according to this paragraph; or

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(ii) Establish the pipelines maximum operating pressure under §195.406(a)(5).

(2) For pipelines scheduled for testing, each operator shall—

(i) Before December 7, 2000, pressure test—

(A) Each pipeline identified by name, symbol, or otherwise that existing records show contains more than 50 percent by mileage (length) of electric resistance welded pipe manufactured before 1970; and

(B) At least 50 percent of the mileage (length) of all other pipelines; and

(ii) Before December 7, 2003, pressure test the remainder of the pipeline mileage (length).

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-17, 45 FR 59161, Sep. 8, 1980; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-33C, 50 FR 38659, Sep. 24, 1985; Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-51B, 61 FR 43026, Aug. 20, 1996; Amdt. 195-53, 59 FR 35465, July 12, 1994; Amdt. 195-58, 62 FR 54591, Oct. 21, 1997; Amdt. 195-63, 63 FR 37500, July 13, 1998; Amdt. 195-65, 63 FR 59475, Nov. 4, 1998]

### **§195.303 Risk-based alternative to pressure testing older hazardous liquid and carbon dioxide pipelines.**

(a) An operator may elect to follow a program for testing a pipeline on risk-based criteria as an alternative to the pressure testing in §195.302(b)(1)(i)-(iii) and §195.302(b)(2)(i) of this subpart. Appendix B provides guidance on how this program will work. An operator electing such a program shall assign a risk classification to each pipeline segment according to the

indicators described in paragraph (b) of this section as follows:

(1) Risk Classification A if the location indicator is ranked as low or medium risk, the product and volume indicators are ranked as low risk, and the probability of failure indicator is ranked as low risk;

(2) Risk Classification C if the location indicator is ranked as high risk; or

(3) Risk Classification B.

(b) An operator shall evaluate each pipeline segment in the program according to the following indicators of risk:

(1) The location indicator is—

(i) High risk if an area is non-rural or environmentally sensitive<sup>1</sup>; or

(ii) Medium risk; or

(iii) Low risk if an area is not high or medium risk.

(2) The product indicator is<sup>1</sup>

(i) High risk if the product transported is highly toxic or is both highly volatile and flammable;

(ii) Medium risk if the product transported is flammable with a flashpoint of less than 100 deg. F, but not highly volatile; or

(iii) Low risk if the product transported is not high or medium risk.

(3) The volume indicator is—

(i) High risk if the line is at least 18 inches in nominal diameter;

(ii) Medium risk if the line is at least 10 inches, but less than 18 inches, in nominal diameter; or

(iii) Low risk if the line is not high or medium risk.

(4) The probability of failure indicator is—

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<sup>1</sup> (See Appendix B, Table C).

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(i) High risk if the segment has experienced more than three failures in the last 10 years due to time-dependent defects (e.g., corrosion, gouges, or problems developed during manufacture, construction or operation, etc.); or

(ii) Low risk if the segment has experienced three failures or less in the last 10 years due to time-dependent defects.

(c) The program under paragraph (a) of this section shall provide for pressure testing for a segment constructed of electric resistance-welded (ERW) pipe and lapwelded pipe manufactured prior to 1970 susceptible to longitudinal seam failures as determined through paragraph (d) of this section. The timing of such pressure test may be determined based on risk classifications discussed under paragraph (b) of this section. For other segments, the program may provide for use of a magnetic flux leakage or ultrasonic internal inspection survey as an alternative to pressure testing and, in the case of such segments in Risk Classification A, may provide for no additional measures under this subpart.

(d) All pre-1970 ERW pipe and lapwelded pipe is deemed susceptible to longitudinal seam failures unless an engineering analysis shows otherwise. In conducting an engineering analysis an operator must consider the seam-related leak history of the pipe and pipe manufacturing information as available, which may include the pipe steel's mechanical properties, including fracture toughness; the manufacturing process and controls related to seam properties, including whether the ERW process was high-frequency or low-frequency, whether the weld seam was heat treated, whether the seam was inspected, the test pressure and duration during mill hydrotest; the quality control of the steel-

making process; and other factors pertinent to seam properties and quality.

(e) Pressure testing done under this section must be conducted in accordance with this subpart. Except for segments in Risk Classification B which are not constructed with pre-1970 ERW pipe, water must be the test medium.

(f) An operator electing to follow a program under paragraph (a) must develop plans that include the method of testing and a schedule for the testing by December 7, 1998. The compliance deadlines for completion of testing are as shown in the table below:

TABLE:—§ 195.303—TEST DEADLINES

Pipeline segment	Risk classification	Test deadline
Pre-1970 Pipe susceptible to longitudinal seam failures [defined in §195.303(c) & (d)]	C or B	12/7/2000
	A	12/7/2002
All Other Pipeline Segments.	C	12/7/2002
	B	12/7/2004
	A	Additional testing not required.

(g) An operator must review the risk classifications for those pipeline segments which have not yet been tested under paragraph (a) of this section or otherwise inspected under paragraph (c) of this section at intervals not to exceed 15 months. If the risk classification of an untested or uninspected segment changes, an operator must take appropriate action within two years, or establish the maximum operating pressure under §195.406(a)(5).

(h) An operator must maintain records establishing compliance with this section, including records verifying the risk classifications, the plans and schedule for

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testing, the conduct of the testing, and the review of the risk classifications.

(i) An operator may discontinue a program under this section only after written notification to the Administrator and approval, if needed, of a schedule for pressure testing.

[Amdt. 195-65, 63 FR 59475, Nov. 4, 1998]

### **§195.304 Test pressure.**

The test pressure for each pressure test conducted under this subpart must be maintained throughout the part of the system being tested for at least 4 continuous hours at a pressure equal to 125 percent, or more, of the maximum operating pressure and, in the case of a pipeline that is not visually inspected for leakage during the test, for at least an additional 4 continuous hours at a pressure equal to 110 percent, or more, of the maximum operating pressure.

[Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-65, 63 FR 59475, Nov. 4, 1998]

### **§195.305 Testing of components.**

(a) Each pressure test under §195.302 must test all pipe and attached fittings, including components, unless otherwise permitted by paragraph (b) of this section.

(b) A component, other than pipe, that is the only item being replaced or added to the pipeline system need not be hydrostatically tested under paragraph (a) of this section if the manufacturer certifies that either–

(1) The component was hydrostatically tested at the factory; or

(2) The component was manufactured under a quality control system that ensures

each component is at least equal in strength to a prototype that was hydrostatically tested at the factory.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-65, 63 FR 59475, Nov. 4, 1998]

### **§195.306 Test medium.**

(a) Except as provided in paragraph (b), (c), and (d) of this section, water must be used as the test medium.

(b) Except for offshore pipelines, liquid petroleum that does not vaporize rapidly may be used as the test medium if–

(1) The entire pipeline section under test is outside of cities and other populated areas;

(2) Each building within 300 feet (91 meters) of the test section is unoccupied while the test pressure is equal to or greater than a pressure which produces a hoop stress of 50 percent of specified minimum yield strength;

(3) The test section is kept under surveillance by regular patrols during the test; and,

(4) Continuous communication is maintained along entire test section.

(c) Carbon dioxide pipelines may use inert gas or carbon dioxide as the test medium if–

(1) The entire pipeline section under test is outside of cities and other populated areas;

(2) Each building within 300 feet (91 meters) of the test section is unoccupied while the test pressure is equal to or greater than a pressure that produces a hoop stress of 50 percent of specified minimum yield strength;



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(3) The maximum hoop stress during the test does not exceed 80 percent of specified minimum yield strength;

(4) Continuous communication is maintained along entire test section; and,

(5) The pipe involved is new pipe having a longitudinal joint factor of 1.00.

(d) Air on inert gas may be used as the test medium in low-stress pipelines.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-3, 36 FR 14618, May 4, 1971; Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-51A, 59 FR 41259, Aug. 11, 1994; Amdt. 195-51B, 59 FR 54328, Oct. 23, 1994; Amdt. 195-53, 59 FR 35471, July 12, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.307 Pressure testing aboveground breakout tanks.**

(a) For aboveground breakout tanks built to API Specification 12F and first placed in service after October 2, 2000, pneumatic testing must be in accordance with section 5.3 of API Specification 12F.

(b) For aboveground breakout tanks built to API Standard 620 and first placed in service after October 2, 2000, hydrostatic and pneumatic testing must be in accordance with section 5.18 of API Standard 620.

(c) For aboveground breakout tanks built to API Standard 650 and first placed in service after October 2, 2000, hydrostatic and pneumatic testing must be in accordance with section 5.3 of API Standard 650.

(d) For aboveground atmospheric pressure breakout tanks constructed of carbon and low alloy steel, welded or

riveted, and non-refrigerated and tanks built to API Standard 650 or its predecessor Standard 12C that are returned to service after October 2, 2000, the necessity for the hydrostatic testing of repair, alteration, and reconstruction is covered in section 10.3 of API Standard 653.

(e) For aboveground breakout tanks built to API Standard 2510 and first placed in service after October 2, 2000, pressure testing must be in accordance with ASME Boiler and Pressure Vessel Code, Section VIII, Division 1 or 2.

Amdt. 195-66, 64 FR 15926, April 2, 1999

### **§195.308 Testing of tie-ins.**

Pipe associated with tie-ins must be pressure tested, either with the section to be tied in or separately.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-51, 59 FR 29379, June 7, 1994]

### **§195.310 Records.**

(a) A record must be made of each pressure test required by this subpart, and the record of the latest test must be retained as long as the facility tested is in use.

(b) The record required by paragraph (a) of this section must include:

(1) The pressure recording charts;

(2) Test instrument calibration data;

(3) The name of the operator, the name of the person responsible for making the test, and the name of the test company used, if any;

(4) The date and time of the test;

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- (5) The minimum test pressure;
- (6) The test medium;
- (7) A description of the facility tested and the test apparatus;
- (8) An explanation of any pressure discontinuities, including test failures, that appear on the pressure recording charts; and
- (9) Where elevation differences in the section under test exceed 100 feet (30 meters), a profile of the pipeline that shows the elevation and test sites over the entire length of the test section.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985; Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### Subpart F—Operation and Maintenance

#### §195.400 Scope.

This subpart prescribes minimum requirements for operating and maintaining pipeline systems constructed with steel pipe.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

#### §195.401 General requirements.

(a) No operator may operate or maintain its pipeline systems at a level of safety lower than that required by this subpart and the procedures it is required to establish under §195.402(a) of this subpart.

(b) Whenever an operator discovers any condition that could adversely affect the safe operation of its pipeline system, it shall correct it within a reasonable time.

However, if the condition is of such a nature that it presents an immediate hazard to persons or property, the operator may not operate the affected part of the system until it has corrected the unsafe condition.

(c) Except as provided by §195.5, no operator may operate any part of any of the following pipelines unless it was designed and constructed as required by this part:

(1) An interstate pipeline, other than a low-stress pipeline, on which construction was begun after March 31, 1970, that transports hazardous liquid.

(2) An interstate offshore gathering line, other than a low-stress, on which construction was begun after July 31, 1977, that transports hazardous liquid.

(3) An intrastate pipeline, other than a low-stress pipeline, on which construction was begun after October 20, 1985, that transports hazardous liquid.

(4) A pipeline on which construction was begun after July 11, 1991 that transports carbon dioxide.

(5) A low-stress pipeline on which construction was begun after August 10, 1994.

[Amdt. 195-15, 44 FR 41197, July 16, 1979 as amended by Amdt. 195-16, 44 FR 70164, Dec. 6, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-36, 51 FR 15005, Apr. 22, 1986; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-53, 59 FR 35465, July 12, 1994]

#### §195.402 Procedural manual for operations, maintenance, and emergencies.

(a) *General.* Each operator shall prepare and follow for each pipeline system a

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manual of written procedures for conducting normal operations and maintenance activities and handling abnormal operations and emergencies. This manual shall be reviewed at intervals not exceeding 15 months, but at least once each calendar year, and appropriate changes made as necessary to insure that the manual is effective. This manual shall be prepared before initial operations of a pipeline system commence, and appropriate parts shall be kept at locations where operations and maintenance activities are conducted.

(b) The Administrator or the State Agency that has submitted a current certification under the pipeline safety laws (49 U.S.C. 60101 *et seq.*) with respect to the pipeline facility governed by an operator's plans and procedures may, after notice and opportunity for hearing as provided in 49 CFR 190.237 or the relevant State procedures, require the operator to amend its plans and procedures as necessary to provide a reasonable level of safety.

(c) *Maintenance and normal operations.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety during maintenance and normal operations:

(1) Making construction records, maps, and operating history available as necessary for safe operation and maintenance.

(2) Gathering of data needed for reporting accidents under subpart B of this part in a timely and effective manner.

(3) Operating, maintaining, and repairing the pipeline system in accordance with each of the requirements of this subpart.

(4) Determining which pipeline facilities are located in areas that would require an immediate response by the operator to prevent hazards to the public if the facilities failed or malfunctioned.

(5) Analyzing pipeline accidents to determine their causes.

(6) Minimizing the potential for hazards identified under paragraph (c)(4) of this section and the possibility of recurrence of accidents analyzed under paragraph (c)(5) of this section.

(7) Starting up and shutting down any part of the pipeline system in a manner designed to assure operation within the limits prescribed by paragraph §195.406, consider the hazardous liquid or carbon dioxide in transportation, variations in altitude along the pipeline, and pressure monitoring and control devices.

(8) In the case of pipeline that is not equipped to fail safe, monitoring from an attended location pipeline pressure during startup until steady state pressure and flow conditions are reached and during shut-in to assure operation within limits prescribed by §195.406.

(9) In the case of facilities not equipped to fail safe that are identified under §195.402(c)(4) or that control receipt and delivery of the hazardous liquid or carbon dioxide, detecting abnormal operating conditions by monitoring pressure, temperature, flow or other appropriate operational data and transmitting this data to an attended location.

(10) Abandoning pipeline facilities, including safe disconnection from an operating pipeline system, purging of combustibles, and sealing abandoned facilities left in place to minimize safety and environmental hazards. For each abandoned offshore pipeline facility or each abandoned onshore pipeline facility that crosses over, under or through commercially navigable waterways the last operator of that facility must file a report upon abandonment of that facility in accordance with §195.59 of this part.

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(11) Minimizing the likelihood of accidental ignition of vapors in areas near facilities identified under paragraph (c)(4) of this section where the potential exists for the presence of flammable liquids or gases.

(12) Establishing and maintaining liaison with fire, police, and other appropriate public officials to learn the responsibility and resources of each government organization that may respond to a hazardous liquid or carbon dioxide pipeline emergency and acquaint the officials with the operator's ability in responding to a hazardous liquid or carbon dioxide pipeline emergency and means of communication.

(13) Periodically reviewing the work done by operator personnel to determine the effectiveness of the procedures used in normal operation and maintenance and taking corrective action where deficiencies are found.

(14) Taking adequate precautions in excavated trenches to protect personnel from the hazards of unsafe accumulations of vapor or gas, and making available when needed at the excavation, emergency rescue equipment, including a breathing apparatus and, a rescue harness and line.

(d) *Abnormal operation.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety when operating design limits have been exceeded:

(1) Responding to, investigating, and correcting the cause of:

(i) Unintended closure of valves or shutdowns;

(ii) Increase or decrease in pressure or flow rate outside normal operating limits;

(iii) Loss of communications;

(iv) Operation of any safety device;

(v) Any other malfunction of a component, deviation from normal

operation, or personnel error which could cause a hazard to persons or property.

(2) Checking variations from normal operation after abnormal operation has ended at sufficient critical locations in the system to determine continued integrity and safe operation.

(3) Correcting variations from normal operation of pressure and flow equipment and controls.

(4) Notifying responsible operator personnel when notice of an abnormal operation is received.

(5) Periodically reviewing the response of operator personnel to determine the effectiveness of the procedures controlling abnormal operation and taking corrective action where deficiencies are found.

(e) *Emergencies.* The manual required by paragraph (a) of this section must include procedures for the following to provide safety when an emergency condition occurs;

(1) Receiving, identifying, and classifying notices of events which need immediate response by the operator or notice to fire, police, or other appropriate public officials and communicating this information to appropriate operator personnel for corrective action.

(2) Prompt and effective response to a notice of each type emergency, including fire or explosion occurring near or directly involving a pipeline facility, accidental release of hazardous liquid or carbon dioxide from a pipeline facility, operational failure causing a hazardous condition, and natural disaster affecting pipeline facilities.

(3) Having personnel, equipment, instruments, tools, and material available as needed at the scene of an emergency.

(4) Taking necessary action, such as emergency shutdown or pressure reduction, to minimize the volume of hazardous liquid or carbon dioxide that is released from any

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section of a pipeline system in the event of a failure.

(5) Control of released hazardous liquid or carbon dioxide at an accident scene to minimize the hazards, including possible intentional ignition in the cases of flammable highly volatile liquid.

(6) Minimization of public exposure to injury and probability of accidental ignition by assisting with evacuation of residents and assisting with halting traffic on roads and railroads in the affected area, or taking other appropriate action.

(7) Notifying fire, police, and other appropriate public officials of hazardous liquid or carbon dioxide pipeline emergencies and coordinating with them preplanned and actual responses during an emergency, including additional precautions necessary for an emergency involving a pipeline system transporting a highly volatile liquid.

(8) In the case of failure of a pipeline system transporting a highly volatile liquid, use of appropriate instruments to assess the extent and coverage of the vapor cloud and determine the hazardous areas.

(9) Providing for a post accident review of employee activities to determine whether the procedures were effective in each emergency and taking corrective action where deficiencies are found.

(f) *Safety-related condition reports.* The manual required by paragraph (a) of this section must include instructions enabling personnel who perform operation and maintenance activities to recognize conditions that potentially may be safety-related conditions that are subject to the reporting requirements of §195.55.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-13, 43 FR 6786, Feb. 16, 1979;

Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-16, 44 FR 70164, Dec. 6, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-39, 53 FR 24942, July 1, 1988; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-46, 56 FR 31087, July 9, 1991; Amdt. 195-49, 59 FR 6579, Feb. 11, 1994; Amdt. 195-55, 61 FR 18512, Apr. 26, 1996; Amdt. 195-69, 65 FR 54440, Sept. 8, 2000]

### §195.403 Training.

(a) Each operator shall establish and conduct a continuing training program to instruct operating and maintenance personnel to:

(1) Carry out the operating and maintenance, and emergency procedures established under §195.402 that relate to their assignments;

(2) Know the characteristics and hazards of the hazardous liquids or carbon dioxide transported, including, in the case of flammable HVL, flammability of mixtures with air, odorless vapors, and water reactions;

(3) Recognize conditions that are likely to cause emergencies, predict the consequences of facility malfunctions or failures and hazardous liquid or carbon dioxide spills, and to take appropriate corrective action;

(4) Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage;

(5) Learn the proper use of firefighting procedures and equipment, fire suits, and breathing apparatus by utilizing, where feasible, a simulated pipeline emergency condition; and

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(6) In the case of maintenance personnel, to safely repair facilities using appropriate special precautions, such as isolation and purging, when highly volatile liquids are involved.

(b) At intervals not exceeding 15 months, but at least once each calendar year, the operator shall:

(1) Review with personnel their performance in meeting the objectives the training program set forth in paragraph (a) of this section; and

(2) Make appropriate changes to the training program as necessary to ensure that it is effective.

(c) Each operator shall require and verify that its supervisors maintain a thorough knowledge of that portion of the procedures established under §195.402 for which they are responsible to insure [sic] compliance.

### **Effective October 28, 2002, 195.403 will be revised as follows:**

#### ***§195.403 Emergency response training.***

*(a) Each operator shall establish and conduct a continuing training program to instruct emergency response personnel to:*

*(1) Carry out the emergency procedures established under 195.402 that relate to their assignments;*

*(2) Know the characteristics and hazards of the hazardous liquids or carbon dioxide transported, including, in case of flammable HVL, flammability of mixtures with air, odorless vapors, and water reactions;*

*(3) Recognize conditions that are likely to cause emergencies, predict the consequences of facility malfunctions or failures and hazardous liquids or carbon*

*dioxide spills, and take appropriate corrective action;*

*(4) Take steps necessary to control any accidental release of hazardous liquid or carbon dioxide and to minimize the potential for fire, explosion, toxicity, or environmental damage; and*

*(5) Learn the proper use of firefighting procedures and equipment, fire suits, and breathing apparatus by utilizing, where feasible, a simulated pipeline emergency condition.*

*(b) At the intervals not exceeding 15 months, but at least once each calendar year, each operator shall:*

*(1) Review with personnel their performance in meeting the objectives of the emergency response training program set forth in paragraph (a) of this section; and*

*(2) Make appropriate changes to the emergency response training program as necessary to ensure that it is effective.*

*(c) Each operator shall require and verify that its supervisors maintain a thorough knowledge of that portion of the emergency response procedures established under 195.402 for which they are responsible to ensure compliance.*

[Amdt. 195-15, 44 FR 41197, July 16, 1979 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-45, 56 FR 26920, June 12, 1991; Amdt. 195-67, 64 FR 46853, Aug. 27, 1999]

#### ***§195.404 Maps and records.***

(a) Each operator shall maintain current maps and records of its pipeline systems that include at least the following information:

(1) Location and identification of the following pipeline facilities:

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- (i) Breakout tanks;
  - (ii) Pump stations;
  - (iii) Scraper and sphere facilities;
  - (iv) Pipeline valves;
  - (v) Cathodically protected facilities;
  - (vi) Facilities to which §195.402(c) (9) applies;
  - (vii) Rights-of-way; and
  - (viii) Safety devices to which §195.428 applies.
- (2) All crossings of public roads, railroads, rivers, buried utilities, and foreign pipelines.
- (3) The maximum operating pressure of each pipeline.
- (4) The diameter, grade, type and nominal wall thickness of all pipe.
- (b) Each operator shall maintain for at least 3 years daily operating records that indicate—
- (1) The discharge pressure at each pump station; and
  - (2) Any emergency or abnormal operation to which the procedures under §195.402 apply.
- (c) Each operator shall maintain the following records for the periods specified:
- (1) The date, location, and description of each repair made to pipe shall be maintained for the useful life of the pipe.
  - (2) The date, location, and description of each repair made to parts of the pipeline system other than pipe shall be maintained for at least 1 year.
  - (3) A record of each inspection and test required by this subpart shall be maintained for at least 2 years or until the next inspection or test is performed, whichever is longer.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; Amdt. 195-2, 35 FR 17183, Nov. 7, 1970;

Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-34, 50 FR 34470, Aug. 26, 1985]

### **§195.405 Protection against ignitions and safe access/egress involving floating roofs.**

(a) After October 2, 2000, protection provided against ignitions arising out of static electricity, lightning, and stray currents during operation and maintenance activities involving aboveground breakout tanks must be in accordance with API Recommended Practice 2003, unless the operator notes in the procedural manual (§195.402(c)) why compliance with all or certain provisions of API Recommended Practice 2003 is not necessary for the safety of a particular breakout tank.

(b) The hazards associated with access/egress onto floating roofs of in-service aboveground breakout tanks to perform inspection, service, maintenance or repair activities (other than specified general considerations, specified routine tasks or entering tanks removed from service for cleaning) are addressed in API Publication 2026. After October 2, 2000, the operator must review and consider the potentially hazardous conditions, safety practices and procedures in API Publication 2026 for inclusion in the procedure manual (§195.402(c)).

Amdt. 195-66, 64 FR 15926, April 2, 1999

### **§195.406 Maximum operating pressure.**

(a) Except for surge pressures and other variations from normal operations, no operator may operate a pipeline at a pressure that exceeds any of the following:

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(1) The internal design pressure of the pipe determined in accordance with §195.106. However, for steel pipe in pipelines being converted under §195.5, if one or more factors of the design formula (§195.106) are unknown, one of the following pressures is to be used as design pressure:

(i) Eighty percent of the first test pressure that produces yield under section N5.0 of appendix N of ASME B31.8, reduced by the appropriate factors in §§195.106(a) and (e); or

(ii) If the pipe is 12¾ in (324 mm) or less outside diameter and is not tested to yield under this paragraph, 200 p.s.i. (1379 kPa) gage.

(2) The design pressure of any other component of the pipeline.

(3) Eighty percent of the test pressure for any part of the pipeline which has been pressure tested under Subpart E of this part.

(4) Eighty percent of the factory test pressure or of the prototype test pressure for any individually installed component which is excepted from testing under §195.305.

(5) For pipelines under §§195.302 (b)(1) and (b)(2)(i) that have not been pressure tested under subpart E of this part, 80 percent of the test pressure or highest operating pressure to which the pipeline was subjected for 4 or more continuous hours that can be demonstrated by recording charts or logs made at the time the test or operations were conducted.

(b) No operator may permit the pressure in a pipeline during surges or other variations from normal operations to exceed 110 percent of the operating pressure limit established under paragraph (a) of this section. Each operator must provide adequate controls and protective equipment to control the pressure within this limit.

[Amdt. 195-2, 35 FR 17183, Nov. 7, 1970 as amended by Amdt. 195-17, 45 FR 59161, Sep. 8, 1980; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-33C, 50 FR 38659, Sep. 24, 1985; Amdt. 195-51, 59 FR 29379, June 7, 1994; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998; Amdt. 195-65, 63 FR 59475, Nov. 4, 1998]

### §195.408 Communications.

(a) Each operator must have a communication system to provide for the transmission of information needed for the safe operation of its pipeline system.

(b) The communication system required by paragraph (a) of this section must, as a minimum, include means for:

(1) Monitoring operational data as required by §195.402(c)(9);

(2) Receiving notices from operator personnel, the public, and public authorities of abnormal or emergency conditions and sending this information to appropriate personnel or government agencies for corrective action;

(3) Conducting two-way vocal communication between a control center and the scene of abnormal operations and emergencies; and

(4) Providing communication with fire, police, and other public officials during emergency conditions, including a natural disaster.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### §195.410 Line markers.



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(a) Except as provided in paragraph (b) of this section, each operator shall place and maintain line markers over each buried pipeline in accordance with the following:

(1) Markers must be located at each public road crossing, at each railroad crossing, and in sufficient number along the remainder of each buried line so that its location is accurately known.

(2) The marker must state at least the following on a background of sharply contrasting color:

(i) The word “Warning,” “Caution,” or “Danger” followed by the words “Petroleum (or the name of the hazardous liquid transported) Pipeline,” or “Carbon Dioxide Pipeline,” all of which, except for markers in heavily developed urban areas, must be in letters at least 1 inch (25 millimeters) high with an approximate stroke of ¼-inch (6.4 millimeters).

(ii) The name of the operator and a telephone number (including area code) where the operator can be reached at all times.

(b) Line markers are not required for buried pipelines located—

(1) Offshore or at crossings of or under waterways and other bodies of water; or

(2) In heavily developed urban areas such as downtown business centers where—

(i) The placement of markers is impractical and would not serve the purpose for which markers are intended; and

(ii) The local government maintains current substructure records.

(c) Each operator shall provide line marking at locations where the line is aboveground in areas that are accessible to the public.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981;

Amdt. 195-27, 48 FR 25206, June 6, 1983, Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-54, 60 FR 14646, Mar. 20, 1995; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.412 Inspection of rights-of-way and crossings under navigable waters.**

(a) Each operator shall, at intervals not exceeding 3 weeks, but at least 26 times each calendar year, inspect the surface conditions on or adjacent to each pipeline right-of-way. Methods of inspection include walking, driving, flying or other appropriate mean of traversing the right-of-way.

(b) Except for offshore pipelines, each operator shall, at intervals not exceeding 5 years, inspect each crossing under a navigable waterway to determine the condition of the crossing.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 48650, Oct. 21, 1982; Amdt. 195-52, 59 FR 33388, June 28, 1994]

### **§195.413 Underwater inspection and reburial of pipelines in the Gulf of Mexico and its inlets.**

(a) Except for gathering lines of 4½ inches (114 mm) nominal outside diameter or smaller, each operator shall, in accordance with this section, conduct an underwater inspection of its pipelines in the Gulf of Mexico and its inlets. The inspection must be conducted after October 3, 1989 and before November 16, 1992.

(b) If, as a result of an inspection under paragraph (a) of this section, or upon notification by any person, an operator discovers that a pipeline it operates is

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exposed on the seabed or constitutes a hazard to navigation, the operator shall—

(1) Promptly, but not later than 24 hours after discovery, notify the National Response Center, telephone: 1-800-424-8802 of the location, and, if available, the geographic coordinates of that pipeline;

(2) Promptly, but not later than 7 days after discovery, mark the location of the pipeline in accordance with 33 CFR part 64 at the ends of the pipeline segment and at intervals of not over 500 yards (457 meters) long, except that a pipeline segment less than 200 yards (183 meters) long need only be marked at the center; and

(3) Within 6 months after discovery, or not later than November 1 of the following year if the 6 month period is after November 1 of the year that the discovery is made, place the pipeline so that the top of the pipe is 36 inches (914 millimeters) below the seabed for normal excavation or 18 inches (457 millimeters) for rock excavation.

[Amdt. 195-47, 56 FR 63764, Dec. 5, 1991, as amended by Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.414 Cathodic protection.**

(a) No operator may operate a hazardous liquid interstate pipeline after March 31, 1973, or a hazardous liquid intrastate pipeline after October 19, 1988, or a carbon dioxide pipeline after July 12, 1993 that has an effective external surface coating material, unless that pipeline is cathodically protected. This paragraph does not apply to breakout tank areas and buried pumping station piping. For the purposes of this subpart, a pipeline does not have an effective external coating and shall be

considered bare, if its cathodic protection current requirements are substantially the same as if it were bare.

(b) Each operator shall electrically inspect each bare hazardous liquid interstate pipeline, other than a low-stress pipeline, before April 1, 1975; each bare hazardous liquid intrastate pipeline, other than a low-stress pipeline, before October 20, 1990; each bare carbon dioxide pipeline before July 12, 1994; and each bare low-stress pipeline before July 12, 1996 to determine any areas in which active corrosion is taking place. The operator may not increase its established operating pressure on a section of bare pipeline until the section has been so electrically inspected. In any areas where active corrosion is found, the operator shall provide cathodic protection. Section 195.416 (f) and (g) apply to all corroded pipe that is found.

(c) Each operator shall electrically inspect all breakout tank areas and buried pumping station piping on hazardous liquid interstate pipelines, other than low-stress pipelines, before April 1, 1973; on hazardous liquid intrastate pipelines, other than low-stress pipelines, before October 20, 1988; on carbon dioxide pipelines before July 12, 1994; and on low-stress pipelines before July 12, 1996 as to the need for cathodic protection, and cathodic protection shall be provided where necessary.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-2, 35 FR 17183, Nov. 7, 1970; Amdt. 195-11, 41 FR 34035, Aug. 12, 1976; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-33, 50 FR 15895, Apr. 23, 1985; Amdt. 195-33C, 50 FR 38659, Sep. 24, 1985; Amdt. 195-45, 56 FR 26922, June 12, 1991; Amdt. 195-53, 59 FR 35465, July 12, 1994]

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### §195.416 External corrosion control.

(a) Each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, conduct tests on each buried, in contact with the ground, or submerged pipeline facility in its pipeline system that is under cathodic protection to determine whether the protection is adequate.

(b) Each operator shall maintain the test leads required for cathodic protection in such a condition that electrical measurements can be obtained to ensure adequate protection.

(c) Each operator shall, at intervals not exceeding 2½ months, but at least six times each calendar year, inspect each of its cathodic protection rectifiers.

(d) Each operator shall, at intervals not exceeding 5 years, electrically inspect the bare pipe in its pipeline system that is not cathodically protected and must study leak records for that pipe to determine if additional protection is needed.

(e) Whenever any buried pipe is exposed for any reason, the operator shall examine the pipe for evidence of external corrosion. If the operator finds that there is active corrosion, that the surface of the pipe is generally pitted, or that corrosion has caused a leak, it shall investigate further to determine the extent of the corrosion.

(f) Any pipe that is found to be generally corroded so that the remaining wall thickness is less than the minimum thickness required by the pipe specification tolerances must be replaced with coated pipe that meets the requirements of this part. However, generally corroded pipe need not be replaced if--

(1) The operating pressure is reduced to be commensurate with the limits on operating pressure specified in this subpart,

based on the actual remaining wall thickness; or

(2) The pipe is repaired by a method that reliable engineering tests and analyses show can permanently restore the serviceability of the pipe.

(g) If localized corrosion pitting is found to exist to a degree where leakage might result, the pipe must be replaced or repaired, or the operating pressure must be reduced commensurate with the strength of the pipe based on the actual remaining wall thickness in the pits.

(h) The strength of the pipe, based on actual remaining wall thickness, for paragraphs (f) and (g) of this section may be determined by the procedure in ASME B31G manual for Determining the Remaining Strength of Corroded Pipelines or by the procedure developed by AGA/Battelle – A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe (with RSTRENG disk). Application of the procedure in the ASME B31G manual or the AGA/Battelle Modified Criterion is applicable to corroded regions (not penetrating the pipe wall) in existing steel pipelines in accordance with limitations set out in the respective procedures.

(i) Each operator shall clean, coat with material suitable for the prevention of atmospheric corrosion, and, maintain this protection for, each component in its pipeline system that is exposed to the atmosphere.

(j) For aboveground breakout tanks where corrosion of the tank bottom is controlled by a cathodic protection system, the cathodic protection system must be inspected to ensure it is operated and maintained in accordance with API Recommended Practice 651, unless the operator notes in the procedure manual

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(§195.402(c)) why compliance with all or certain provisions of API Recommended Practice 651 is not necessary for the safety of a particular breakout tank.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-31, 49 FR 36383, Sep. 17, 1984; Amdt. 195-52, 59 FR 33388, June 28, 1994; Amdt. 195-66, 64 FR 15926, April 2, 1999; Amdt. 195-68, 64 FR 69660, Dec. 14, 1999]

### **§195.418 Internal corrosion control.**

(a) No operator may transport any hazardous liquid or carbon dioxide that would corrode the pipe or other components of its pipeline system, unless it has investigated the corrosive effect of the hazardous liquid or carbon dioxide on the system and has taken adequate steps to mitigate corrosion.

(b) If corrosion inhibitors are used to mitigate internal corrosion the operator shall use inhibitors in sufficient quantity to protect the entire part of the system that the inhibitors are designed to protect and shall also use coupons or other monitoring equipment to determine their effectiveness.

(c) The operator shall, at intervals not exceeding 7½ months, but at least twice each calendar year, examine coupons or other types of monitoring equipment to determine the effectiveness of the inhibitors or the extent of any corrosion.

(d) Whenever any pipe is removed from the pipeline for any reason, the operator must inspect the internal surface for evidence of corrosion. If the pipe is generally corroded such that the remaining wall thickness is less than the minimum thickness required by the pipe specification

tolerances, the operator shall investigate adjacent pipe to determine the extent of the corrosion. The corroded pipe must be replaced with pipe that meets the requirements of this part or, based on the actual remaining wall thickness, the operating pressure must be reduced to be commensurate with the limits on operating pressure specified in this subpart.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-1, 35 FR 5332, Mar. 31, 1970; Amdt. 195-20, 46 FR 39, Jan. 2, 1981; Amdt. 195-20B, 46 FR 38922, July 30, 1981; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-45, 56 FR 26922, June 12, 1991]

### **§195.420 Valve maintenance.**

(a) Each operator shall maintain each valve that is necessary for the safe operation of its pipeline systems in good working order at all times.

(b) Each operator shall, at intervals not exceeding 7½ months, but at least twice each calendar year, inspect each mainline valve to determine that it is functioning properly.

(c) Each operator shall provide protection for each valve from unauthorized operation and from vandalism.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982]

### **§195.422 Pipeline repairs.**

(a) Each operator shall, in repairing its pipeline systems, insure that the repairs are

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made in a safe manner and are made so as to prevent damage to persons or property.

(b) No operator may use any pipe, valve, or fitting, for replacement in repairing pipeline facilities, unless it is designed and constructed as required by this part.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.424 Pipe movement.**

(a) No operator may move any line pipe, unless the pressure in the line section involved is reduced to not more than 50 percent of the maximum operating pressure.

(b) No operator may move any pipeline containing highly volatile liquids where materials in the line section involved are joined by welding unless—

(1) Movement when the pipeline does not contain highly volatile liquids is impractical;

(2) The procedures of the operator under §195.402 contain precautions to protect the public against the hazard in moving pipelines containing highly volatile liquids, including the use of warnings, where necessary, to evacuate the area close to the pipeline; and

(3) The pressure in that line section is reduced to the lower of the following:

(i) Fifty percent or less of the maximum operating pressure; or

(ii) The lowest practical level that will maintain the highly volatile liquid in a liquid state with continuous flow, but not less than 50 p.s.i. (345 kPa) gage above the vapor pressure of the commodity.

(c) No operator may move any pipeline containing highly volatile liquids where materials in the line section involved are not joined by welding unless—

(1) The operator complies with paragraphs (b)(1) and (2) of this section; and

(2) That line section is isolated to prevent the flow of highly volatile liquid.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-7, 39 FR 19780, June 4, 1974; Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-63, 63 FR 37500, July 13, 1998]

### **§195.426 Scraper and sphere facilities.**

No operator may use a launcher or receiver that is not equipped with a relief device capable of safely relieving pressure in the barrel before insertion or removal of scrapers or spheres. The operator must use a suitable device to indicate that pressure has been relieved in the barrel or must provide a means to prevent insertion or removal of scrapers or spheres if pressure has not been relieved in the barrel.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.428 Overpressure safety devices and overfill protection systems.**

(a) Except as provided in paragraph (b) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, or in the case of pipelines used to carry highly volatile liquids, at intervals not to exceed 7½ months, but at least twice each calendar year, inspect and test each pressure limiting device, relief valve, pressure regulator, or other item of pressure control equipment to determine that it is functioning properly, is

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in good mechanical condition, and is adequate from the standpoint of capacity and reliability of operation for the service in which it is used.

(b) In the case of relief valves on pressure breakout tanks containing highly volatile liquids, each operator shall test each valve at intervals not exceeding 5 years.

(c) Aboveground breakout tanks that are constructed or significantly altered according to API Standard 2510 after October 2, 2000, must have an overfill protection system installed according to section 5.1.2 of API Standard 2510. Other aboveground breakout tanks with 600 gallons (2271 liters) or more of storage capacity that are constructed or significantly altered after October 2, 2000, must have an overfill protection system installed according to API Recommended Practice 2350. However, operators need not comply with any part of API Recommended Practice 2350 for a particular breakout tank if the operator notes in the manual required by §195.402 why compliance with that part is not necessary for safety of the tank.

(d) After October 2, 2000, the requirements of paragraphs (a) and (b) of this section for inspection and testing of pressure control equipment apply to the inspection and testing of overfill protection systems.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-4, 37 FR 18733, Sep. 15, 1972; Amdt. 195-15, 44 FR 41197, July 16, 1979; Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-66, 64 FR 15926, April 2, 1999]

### **§195.430 Firefighting equipment.**

Each operator shall maintain adequate firefighting equipment at each pump station and breakout tank area. The equipment must be—

(a) In proper operating condition at all times;

(b) Plainly marked so that its identity as firefighting equipment is clear; and

(c) Located so that it is easily accessible during a fire.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.432 Inspection of in-service breakout tanks.**

(a) Except for breakout tanks inspected under paragraphs (b) and (c) of this section, each operator shall, at intervals not exceeding 15 months, but at least once each calendar year, inspect each in-service breakout tank.

(b) Each operator shall inspect the physical integrity of in-service atmospheric and low-pressure steel aboveground breakout tanks according to section 4 of API Standard 653. However, if structural conditions prevent access to the tank bottom, the bottom integrity may be assessed according to a plan included in the operations and maintenance manual under §195.402(c)(3).

(c) Each operator shall inspect the physical integrity of in-service steel aboveground breakout tanks built to API Standard 2510 according to section 6 of API 510.

(d) The intervals of inspection specified by documents referenced in paragraphs (b) and (c) of this section begin on May 3, 1999,

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or on the operator's last recorded date of the inspection, whichever is earlier.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-24, 47 FR 46850, Oct. 21, 1982; Amdt. 195-66, 64 FR 15926, April 2, 1999]

### **§195.434 Signs.**

Each operator shall maintain signs visible to the public around each pumping station and breakout tank area. Each sign must contain the name of the operator and an emergency telephone number to contact.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.436 Security of facilities.**

Each operator shall provide protection for each pumping station and breakout tank area and other exposed facility (such as scraper traps) from vandalism and unauthorized entry.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.438 Smoking or open flames.**

Each operator shall prohibit smoking and open flames in each pump station area and each breakout tank area where there is a possibility of the leakage of a flammable hazardous liquid or of the presence of flammable vapors.

[34 FR 15473, Oct. 4, 1969 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981]

### **§195.440 Public education.**

Each operator shall establish a continuing educational program to enable the public, appropriate government organizations and persons engaged in excavation-related activities to recognize a hazardous liquid or a carbon dioxide pipeline emergency and to report it to the operator or the fire, police, or other appropriate public officials. The program must be conducted in English and in other languages commonly understood by a significant number and concentration of non-English speaking population in the operator's operating areas.

[Amdt. 195-15, 44 FR 41197, July 16, 1979 as amended by Amdt. 195-22, 46 FR 38357, July 27, 1981; Amdt. 195-45, 56 FR 26922, June 12, 1991]

### **§195.442 Damage prevention program.**

(a) Except as provided in paragraph (d) of this section, each operator of a buried pipeline shall carry out, in accordance with this section, a written program to prevent damage to that pipeline from excavation activities. For the purpose of this section, the term “excavation activities” includes excavation, blasting, boring, tunneling, backfilling, the removal of aboveground structures by either explosive or mechanical means, and other earth moving operations.

(b) An operator may comply with any of the requirements of paragraph (c) of this section through participation in a public service program, such as a one-call system, but such participation does not relieve the operator of responsibility for compliance with this section. However, an operator must perform the duties of paragraph (c)(3)

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of this section through participation in a one-call system, if that one-call system is a qualified one-call system. In areas that are covered by more than one qualified one-call system, an operator need only join one of the qualified one-call systems if there is a central telephone number for excavators to call for excavation activities, or if the one-call systems in those areas communicate with one another. An operator's pipeline system must be covered by a qualified one-call system where there is one in place. For the purpose of this section, a one-call system is considered a "qualified one-call system" if it meets the requirements of section (b)(1) or (b)(2) of this section.

(1) The state has adopted a one-call damage prevention program under §198.37 of this chapter; or

(2) The one-call system:

(i) Is operated in accordance with §198.39 of this chapter;

(ii) Provides a pipeline operator an opportunity similar to a voluntary participant to have a part in management responsibilities; and

(iii) Assesses a participating pipeline operator a fee that is proportionate to the costs of the one-call system's coverage of the operator's pipeline.

(c) The damage prevention program required by paragraph (a) of this section must, at a minimum:

(1) Include the identity, on a current basis, of persons who normally engage in excavation activities in the area in which the pipeline is located.

(2) Provides for notification of the public in the vicinity of the pipeline and actual notification of the persons identified in paragraph (c)(1) of this section of the following as often as needed to make them aware of the damage prevention program:

(i) The program's existence and purpose; and

(ii) How to learn the location of underground pipelines before excavation activities are begun.

(3) Provide a means of receiving and recording notification of planned excavation activities.

(4) If the operator has buried pipelines in the area of excavation activity, provide for actual notification of persons who give notice of their intent to excavate of the type of temporary marking to be provided and how to identify the markings.

(5) Provide for temporary marking of buried pipelines in the area of excavation activity before, as far as practical, the activity begins.

(6) Provide as follows for inspection of pipelines that an operator has reason to believe could be damaged by excavation activities:

(i) The inspection must be done as frequently as necessary during and after the activities to verify the integrity of the pipeline; and

(ii) In the case of blasting, any inspection must include leakage surveys.

(d) A damage prevention program under this section is not required for the following pipelines:

(1) Pipelines located offshore.

(2) Pipelines to which access is physically controlled by the operator.

[Amdt. 195-54, 60 FR 14646, Mar. 20, 1995 as amended by Amdt. 195-60, 62 FR 61695, Nov. 19, 1997]

### **§195.444 CPM leak detection.**

Each computational pipeline monitoring (CPM) leak detection system



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installed on a hazardous liquid pipeline transporting liquid in single phase (without gas in the liquid) must comply with API 1130 in operating, maintaining, testing, record keeping, and dispatcher training of the system.

[Amdt. 195-62, 63 FR 36373, July 6, 1998]

### High Consequence Areas

#### §195.450 Definitions.

The following definitions apply to this section and §195.452:

*Emergency flow restricting device or EFRD* means a check valve or remote control valve as follows:

(1) *Check valve* means a valve that permits fluid to flow freely in one direction and contains a mechanism to automatically prevent flow in the other direction.

(2) *Remote control valve or RCV* means any valve that is operated from a location remote from where the valve is installed. The RCV is usually operated by the supervisory control and data acquisition (SCADA) system. The linkage between the pipeline control center and the RCV may be by fiber optics, microwave, telephone lines, or satellite.

*High consequence area* means:

(1) A *commercially navigable waterway*, which means a waterway where a substantial likelihood of commercial navigation exists;

(2) A *high population area*, which means an urbanized area, as defined and delineated by the Census Bureau, that contains 50,000 or more people and has a population density of at least 1,000 people per square mile;

(3) An *other populated area*, which means a place, as defined and delineated by the Census Bureau, that contains a concentrated population, such as an incorporated or unincorporated city, town, village, or other designated residential or commercial area;

(4) An *unusually sensitive area*, as defined in §195.6.

[Amdt. 195-70, 65 FR 75378, Dec. 1, 2000]

### Pipeline Integrity Management

#### §195.452 Pipeline integrity management in high consequence areas.

(a) *Which operators must comply?*

This section applies to each operator who owns or operates a total of 500 or more miles of hazardous liquid pipeline subject to this part.

(b) *What must an operator do?* (1)

No later than March 31, 2002, an operator must develop a written integrity management program that addresses the risks on each pipeline segment that could affect a high consequence area. An operator must include in the program:

(i) An identification of all pipeline segments that could affect a high consequence area. A pipeline segment in a high consequence area is presumed to affect that area unless the operator's risk assessment effectively demonstrates otherwise. (See Appendix C of this part for guidance on identifying pipeline segments.) An operator must complete this identification no later than December 31, 2001;

(ii) A plan for baseline assessment of the line pipe (see paragraph (c) of this section);

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(iii) A framework addressing each element of the integrity management program, including continual integrity assessment and evaluation (see paragraphs (f) and (j) of this section). The framework must initially indicate how decisions will be made to implement each element.

(2) An operator must implement and follow the program it develops.

(3) In carrying out this section, an operator must follow recognized industry practices unless the section specifies otherwise or the operator demonstrates that an alternative practice is supported by a reliable engineering evaluation and provides an equivalent level of public safety and environmental protection.

(c) *What must be in the baseline assessment plan?* (1) An operator must include each of the following elements in its written baseline assessment plan:

(i) The methods selected to assess the integrity of the line pipe. For low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure, an operator must select integrity assessment methods capable of assessing seam integrity and of detecting corrosion and deformation anomalies. An operator must assess the integrity of the line pipe by:

(A) Internal inspection tool or tools capable of detecting corrosion and deformation anomalies including dents, gouges and grooves;

(B) Pressure test conducted in accordance with subpart E of this part; or

(C) Other technology that the operator demonstrates can provide an equivalent understanding of the condition of the line pipe. An operator choosing this option must notify the Office of Pipeline Safety (OPS) 90 days before conducting the assessment, by sending a notice to the

address specified in §195.58 or to the facsimile number specified in §195.56;

(ii) A schedule for completing the integrity assessment;

(iii) An explanation of the assessment methods selected and evaluation of risk factors considered in establishing the assessment schedule.

(2) An operator must document, prior to implementing any changes to the plan, any modification to the plan, and reasons for the modification.

(d) *When must the baseline assessment be completed?* (1) *Time period.* An operator must establish a baseline assessment schedule to determine the priority for assessing the pipeline segments. An operator must complete the baseline assessment by March 31, 2008. An operator must assess at least 50% of the line pipe subject to the requirements of this section, beginning with the highest risk pipe, by September 30, 2004.

(2) *Prior assessment.* To satisfy the requirements of paragraph (c)(1)(i) of this section, an operator may use an integrity assessment conducted after January 1, 1996, if the integrity assessment method meets the requirements of this section. However, if an operator uses this prior assessment as its baseline assessment, the operator must re-assess the line pipe according to the requirements of paragraph (j)(3) of this section.

(3) *Newly-identified areas.* (i) When information is available from the information analysis (see paragraph (g) of this section), or from Census Bureau maps, that the population density around a pipeline segment has changed so as to fall within the definition in §195.450 of a high population area or other populated area, the operator must incorporate the area into its baseline assessment plan as a high consequence area

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within one year from the date the area is identified. An operator must complete the baseline assessment of any line pipe that could affect the newly-identified high consequence area within five years from the date the area is identified.

(ii) An operator must incorporate a new unusually sensitive area into its baseline assessment plan within one year from the date the area is identified. An operator must complete the baseline assessment of any line pipe that could affect the newly-identified high consequence area within five years from the date the area is identified.

(e) *What are the risk factors for establishing an assessment schedule (for both the baseline and continual integrity assessments)?* (1) An operator must establish an integrity assessment schedule that prioritizes pipeline segments for assessment (see paragraphs (d)(1) and (j)(3) of this section). An operator must base the assessment schedule on all risk factors that reflect the risk conditions on the pipeline segment. The factors an operator must consider include, but are not limited to:

- (i) Results of the previous integrity assessment, defect type and size that the assessment method can detect, and defect growth rate;
- (ii) Pipe size, material, manufacturing information, coating type and condition, and seam type;
- (iii) Leak history, repair history and cathodic protection history;
- (iv) Product transported;
- (v) Operating stress level;
- (vi) Existing or projected activities in the area;
- (vii) Local environmental factors that could affect the pipeline (e.g., corrosivity of soil, subsidence, climatic);

- (viii) geo-technical hazards; and
- (ix) Physical support of the segment such as by a cable suspension bridge.

(2) Appendix C of this part provides further guidance on risk factors.

(f) *What are the elements of an integrity management program?* An integrity management program begins with the initial framework. An operator must continually change the program to reflect operating experience, conclusions drawn from results of the integrity assessments, and other maintenance and surveillance data, and evaluation of consequences of a failure on the high consequence area. An operator must include, at minimum, each of the following elements in its written integrity management program:

(1) A process for identifying which pipeline segments could affect a high consequence area;

(2) A baseline assessment plan meeting the requirements of paragraph (c) of this section;

(3) An analysis that integrates all available information about the integrity of the entire pipeline and the consequences of a failure (see paragraph (g) of this section);

(4) Criteria for repair actions to address integrity issues raised by the assessment methods and information analysis (see paragraph (h) of this section);

(5) A continual process of assessment and evaluation to maintain a pipeline's integrity (see paragraph (j) of this section);

(6) Identification of preventive and mitigative measures to protect the high consequence area (see paragraph (i) of this section);

(7) Methods to measure the program's effectiveness (see paragraph (k) of this section);

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(8) A process for review of integrity assessment results and information analysis by a person qualified to evaluate the results and information (see paragraph (h)(2) of this section).

(g) *What is an information analysis?* In periodically evaluating the integrity of each pipeline segment (paragraph (j) of this section), an operator must analyze all available information about the integrity of the entire pipeline and the consequences of a failure. This information includes:

(1) Information critical to determining the potential for, and preventing, damage due to excavation, including current and planned damage prevention activities, and development or planned development along the pipeline segment;

(2) Data gathered through the integrity assessment required under this section;

(3) Data gathered in conjunction with other inspections, tests, surveillance and patrols required by this Part, including, corrosion control monitoring and cathodic protection surveys; and

(4) Information about how a failure would affect the high consequence area, such as location of the water intake.

(h) *What actions must be taken to address integrity issues?* (1) *General requirements.* An operator must take prompt action to address all pipeline integrity issues raised by the assessment and information analysis. An operator must evaluate all anomalies and repair those anomalies that could reduce a pipeline's integrity. An operator must comply with §195.422 in making a repair.

(2) *Discovery of a condition.* Discovery of a condition occurs when an operator has adequate information about the condition to determine the need for repair.

Depending on circumstances, an operator may have adequate information when the operator receives the preliminary internal inspection report, gathers and integrates information from other inspections or the periodic evaluation, excavates the anomaly, or when an operator receives the final internal inspection report. The date of discovery can be no later than the date of the integrity assessment results or the final report.

(3) *Review of integrity assessment.* An operator must include in its schedule for evaluation and repair (as required by paragraph (h)(4) of this section), a schedule for promptly reviewing and analyzing the integrity assessment results. After March 31, 2004, an operator's schedule must provide for review of the integrity assessment results within 120 days of conducting each assessment. The operator must obtain and assess a final report within an additional 90 days.

(4) *Schedule for repairs.* An operator must complete repairs according to a schedule that prioritizes the conditions for evaluation and repair. An operator must base the schedule on the risk factors listed in paragraph (e)(1) of this section and any pipeline-specific risk factors the operator develops. If an operator cannot meet the schedule for any of the conditions addressed in paragraphs (h)(5)(i) through (iv) of this section, the operator must justify the reasons why the schedule cannot be met and that the changed schedule will not jeopardize public safety or environmental protection. An operator must notify OPS if the operator cannot meet the schedule and cannot provide safety through a temporary reduction in operating pressure until a permanent repair is made. An operator must send a notice to the address specified in §195.58 or to the facsimile number specified in §195.56.

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(5) *Special requirements for scheduling repairs*—(i) *Immediate repair conditions*. An operator's evaluation and repair schedule must provide for immediate repair conditions. To maintain safety, an operator will need to temporarily reduce operating pressure or shut down the pipeline until the operator can complete the repair of these conditions. An operator must base the temporary operating pressure reduction on remaining wall thickness. An operator must treat the following conditions as immediate repair conditions:

(A) Metal loss greater than 80% of nominal wall regardless of dimensions.

(B) Predicted burst pressure less than the maximum operating pressure at the location of the anomaly. Burst pressure has been calculated from the remaining strength of the pipe, using a suitable metal loss strength calculation, e.g., ASME/ANSI B31G (“Manual for Determining the Remaining Strength of Corroded Pipelines” (1991)) or AGA Pipeline Research Committee Project PR-3-805 (“A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe” (December 1989)). These documents are available at the addresses listed at §195.3.

(C) Dents on the top of the pipeline (above 4 and 8 o'clock position) with any indicated metal loss.

(D) Significant anomaly that in the judgment of the person evaluating the assessment results requires immediate action.

(ii) *60-day conditions*. Except for conditions listed in paragraph (h)(5)(i) of this section, an operator must schedule for evaluation and repair all dents, regardless of size, located on the top of the pipeline (above 4 and 8 o'clock position) within 60 days of discovery of the condition.

(iii) *Six-month conditions*. Except for conditions listed in paragraph (h)(5)(i) or (ii) of this section, an operator must schedule evaluation and repair of the following within six months of discovery of the condition:

(A) Dents with metal loss or dents that affect pipe curvature at a girth or seam weld.

(B) Dents with reported depths greater than 6% of the pipe diameter.

(C) Remaining strength of the pipe results in a safe operating pressure that is less than the current established MOP at the location of the anomaly using a suitable safe operating pressure calculation method (e.g., ASME/ANSI B31G (“Manual for Determining the Remaining Strength of Corroded Pipelines” (1991)) or AGA Pipeline Research Committee Project PR-3-805 (“A Modified Criterion for Evaluating the Remaining Strength of Corroded Pipe” (December 1989)). These documents are available at the addresses listed at §195.3.

(D) Areas of general corrosion with a predicted metal loss of >50% of nominal wall.

(E) Predicted metal loss of >50% of nominal wall at crossings of another pipeline.

(F) Weld anomalies with a predicted metal loss >50% of nominal wall.

(G) Potential crack indications that when excavated are determined to be cracks.

(H) Corrosion of or along seam welds.

(I) Gouges or grooves greater than 12.5% of nominal wall.

(iv) *Other conditions*. An operator must schedule evaluation and repair of the following conditions:

(A) Data that reflect a change since last assessed.

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(B) Data that indicate mechanical damage that is located on the top half of the pipe.

(C) Data that indicate anomalies abrupt in nature.

(D) Data that indicate anomalies longitudinal in orientation.

(E) Data that indicate anomalies over a large area.

(F) Anomalies located in or near casings, crossings of another pipeline, and areas with suspect cathodic protection.

(i) *What preventive and mitigative measures must an operator take to protect the high consequence area?* (1) *General requirements.* An operator must take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. These measures include conducting a risk analysis of the pipeline segment to identify additional actions to enhance public safety or environmental protection. Such actions may include, but are not limited to, implementing damage prevention best practices, better monitoring of cathodic protection where corrosion is a concern, establishing shorter inspection intervals, installing EFRDs on the pipeline segment, modifying the systems that monitor pressure and detect leaks, providing additional training to personnel on response procedures, conducting drills with local emergency responders and adopting other management controls.

(2) *Risk analysis criteria.* In identifying the need for additional preventive and mitigative measures, an operator must evaluate the likelihood of a pipeline release occurring and how a release could affect the high consequence area. This determination must consider all relevant risk factors, including, but not limited to:

(i) Terrain surrounding the pipeline segment, including drainage systems such as

small streams and other smaller waterways that could act as a conduit to the high consequence area;

(ii) Elevation profile;

(iii) Characteristics of the product transported;

(iv) Amount of product that could be released;

(v) Possibility of a spillage in a farm field following the drain tile into a waterway;

(vi) Ditches along side a roadway the pipeline crosses;

(vii) Physical support of the pipeline segment such as by a cable suspension bridge;

(viii) Exposure of the pipeline to operating pressure exceeding established maximum operating pressure.

(3) *Leak detection.* An operator must have a means to detect leaks on its pipeline system. An operator must evaluate the capability of its leak detection means and modify, as necessary, to protect the high consequence area. An operator's evaluation must, at least, consider, the following factors—length and size of the pipeline, type of product carried, the pipeline's proximity to the high consequence area, the swiftness of leak detection, location of nearest response personnel, leak history, and risk assessment results.

(4) *Emergency Flow Restricting Devices (EFRD).* If an operator determines that an EFRD is needed on a pipeline segment to protect a high consequence area in the event of a hazardous liquid pipeline release, an operator must install the EFRD. In making this determination, an operator must, at least, consider the following factors—the swiftness of leak detection and pipeline shutdown capabilities, the type of commodity carried, the rate of potential leakage, the volume that can be released,

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topography or pipeline profile, the potential for ignition, proximity to power sources, location of nearest response personnel, specific terrain between the pipeline segment and the high consequence area, and benefits expected by reducing the spill size.

(j) *What is a continual process of evaluation and assessment to maintain a pipeline's integrity?* (1) *General.* After completing the baseline integrity assessment, an operator must continue to assess the line pipe at specified intervals and periodically evaluate the integrity of each pipeline segment that could affect a high consequence area.

(2) *Evaluation.* An operator must conduct a periodic evaluation as frequently as needed to assure pipeline integrity. An operator must base the frequency of evaluation on risk factors specific to its pipeline, including the factors specified in paragraph (e) of this section. The evaluation must consider the past and present integrity assessment results, information analysis (paragraph (g) of this section), and decisions about repair, and preventive and mitigative actions (paragraphs (h) and (i) of this section).

(3) *Assessment intervals.* An operator must establish intervals not to exceed five (5) years for continually assessing the line pipe's integrity. An operator must base the assessment intervals on the risk the line pipe poses to the high consequence area to determine the priority for assessing the pipeline segments. An operator must establish the assessment intervals based on the factors specified in paragraph (e) of this section, the analysis of the results from the last integrity assessment, and the information analysis required by paragraph (g) of this section.

(4) *Variance from the 5-year intervals in limited situations*—(i)

*Engineering basis.* An operator may be able to justify an engineering basis for a longer assessment interval on a segment of line pipe. The justification must be supported by a reliable engineering evaluation combined with the use of other technology, such as external monitoring technology, that provides an understanding of the condition of the line pipe equivalent to that which is obtainable under paragraph (j)(2) of this section. An operator must notify OPS nine months before the end of the intervals of five years or less of the reason why the operator intends to justify a longer interval. An operator must send a notice to the address specified in §195.58 or to the facsimile number specified in §195.56. The notice must state a proposed alternative interval.

(ii) *Unavailable technology.* An operator may require a longer assessment period for a segment of line pipe (for example, because sophisticated internal inspection technology is not available). An operator must justify the reasons why it cannot comply with the required assessment period and must also demonstrate the actions it is taking to evaluate the integrity of the pipeline segment in the interim. An operator must notify OPS 180 days before the end of the intervals of five years or less that the operator may require a longer assessment interval. An operator must send a notice to the address specified in §195.58 or to the facsimile number specified in §195.56. The Operator may have up to an additional 180 days to complete the assessment.

(5) *Assessment methods.* An operator must assess the integrity of the line pipe by:

(i) Internal inspection tool or tools capable of detecting corrosion and deformation anomalies including dents, gouges and grooves;

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(ii) Pressure test conducted in accordance with subpart E of this part; or

(iii) Other technology that the operator demonstrates can provide an equivalent understanding of the condition of the line pipe. An operator choosing this option must notify OPS 60 days before conducting the assessment, by sending a notice to the address specified in §195.58 or to the facsimile number specified in §195.56.

(6) However, for low frequency electric resistance welded pipe or lap welded pipe susceptible to longitudinal seam failure, an operator must select integrity assessment methods capable of assessing seam integrity and of detecting corrosion and deformation anomalies.

(k) *What methods to measure program effectiveness must be used?* An operator's program must include methods to measure whether the program is effective in assessing and evaluating the integrity of each pipeline segment and in protecting the high consequence areas. See Appendix C of this part for guidance on methods that can be used to evaluate a program's effectiveness.

(l) *What records must be kept?* An operator must maintain for review during an inspection:

(i) A written integrity management program in accordance with paragraph (b) of this section.

(ii) Documents to support the decisions and analyses, including any modifications, justifications, variances, deviations and determinations made, and actions taken, to implement and evaluate each element of the integrity management program listed in paragraph (f) of this section.

(2) See Appendix C of this part for examples of records an operator would be required to keep.

[Amdt. 195-70, 65 FR 75378, Dec. 1, 2000]

### Subpart G — Operator Qualification

#### §195.501 Scope.

(a) This subpart prescribes the minimum requirements for operator qualification of individuals performing covered tasks on a pipeline facility.

(b) For the purpose of this subpart, a covered task is an activity, identified by the operator, that:

- (1) Is performed on a pipeline facility;
- (2) Is an operations or maintenance task;
- (3) Is performed as a requirement of this part; and
- (4) Affects the operation or integrity of the pipeline.

#### §195.503 Definitions.

*Abnormal operating condition* means a condition identified by the operator that may indicate a malfunction of a component or deviation from normal operations that may:

- (a) indicate a condition exceeding design limits; or
- (b) result in a hazard(s) to persons, property, or the environment.

*Evaluation* means a process, established and documented by the operator, to determine an individual's ability to perform a covered task by any of the following:

- (a) written examination;
- (b) oral examination;
- (c) work performance history review;
- (d) observation during:
- (e) performance on the job,
- (f) on the job training, or
- (g) simulations; or
- (h) other forms of assessment.



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Qualified means that an individual has been evaluated and can:

- (a) perform assigned covered tasks and
- (b) recognize and react to abnormal operating conditions.

[Amdt. 195-67, 64 FR 46853, Aug. 27, 1999]

### **§195.505 Qualification program.**

Each operator shall have and follow a written qualification program. The program shall include provisions to:

- (a) Identify covered tasks;
- (b) Ensure through evaluation that individuals performing covered tasks are qualified;
- (c) Allow individuals that are not qualified pursuant to this subpart to perform a covered task if directed and observed by an individual that is qualified;
- (d) Evaluate an individual if the operator has reason to believe that the individual's performance of a covered task contributed to an accident as defined in Part 195;
- (e) Evaluate an individual if the operator has reason to believe that the individual is no longer qualified to perform a covered task;
- (f) Communicate changes that affect covered tasks to individuals performing those covered tasks; and
- (g) Identify those covered tasks and the intervals at which evaluation of the individual's qualifications is needed.

[Amdt. 195-67, 64 FR 46853, Aug. 27, 1999]

### **§195.507 Recordkeeping.**

Each operator shall maintain records that demonstrate compliance with this subpart.

- (a) Qualification records shall include:
  - (1) Identification of qualified individual(s);
  - (2) Identification of the covered tasks the individual is qualified to perform;
  - (3) Date(s) of current qualification; and
  - (4) Qualification method(s).
- (b) Records supporting an individual's current qualification shall be maintained while the individual is performing the covered task. Records of prior qualification and records of individuals no longer performing covered tasks shall be retained for a period of five years.

[Amdt. 195-67, 64 FR 46853, Aug. 27, 1999]

### **§195.509 General.**

- (a) Operators must have a written qualification program by April 27, 2001.
- (b) Operators must complete the qualification of individuals performing covered tasks by October 28, 2002.
- (c) Work performance history review may be used as a sole evaluation method for individuals who were performing a covered task prior to August 27, 1999.
- (d) After October 28, 2002, work performance history may not be used as a sole evaluation method.

[Amdt. 195-67, 64 FR 46853, Aug. 27, 1999]

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### **Appendix A—Delineation between Federal and State Jurisdiction – Statement of Agency Policy and Interpretation**

In 1979, Congress enacted comprehensive safety legislation governing the transportation of hazardous liquids by pipeline, the Hazardous Liquids Pipeline Safety Act of 1979, 49 U.S.C. 2001 *et seq.* (HLPISA). The HLPISA expanded the existing statutory authority for safety regulation, which was limited to transportation by common carriers in interstate and foreign commerce, to transportation through facilities used in or affecting interstate or foreign commerce. It also added civil penalty, compliance order, and injunctive enforcement authorities to the existing criminal sanctions. Modeled largely on the Natural Gas Pipeline Safety Act of 1968, 49 U.S.C. 1671 *et seq.* (NGPSA), the HLPISA provides for a national hazardous liquid pipeline safety program with nationally uniform minimal standards and with enforcement administered through a Federal-State partnership. The HLPISA leaves to exclusive Federal regulation and enforcement the "interstate pipeline facilities," those used for the pipeline transportation of hazardous liquids in interstate or foreign commerce. For the remainder of the pipeline facilities, denominated "intrastate pipeline facilities," the HLPISA provides that the same Federal regulation and enforcement will apply unless a State certifies that it will assume those responsibilities. A certified State must adopt the same minimal standards but may adopt additional more stringent standards so long as they are compatible. Therefore, in States which participate in the hazardous liquid pipeline safety program through certification, it is necessary to distinguish

the interstate from the intrastate pipeline facilities.

In deciding that an administratively practical approach was necessary in distinguishing between interstate and intrastate liquid pipeline facilities and in determining how best to accomplish this, DOT has logically examined the approach used in the NGPSA. The NGPSA defines the interstate gas pipeline facilities subject to exclusive Federal jurisdiction as those subject to the economic regulatory jurisdiction of the Federal Energy Regulatory Commission (FERC). Experience has proven this approach practical. Unlike the NGPSA however, the HLPISA has no specific reference to FERC jurisdiction, but instead defines interstate liquid pipeline facilities by the more commonly used means of specifying the end points of the transportation involved. For example, the economic regulatory jurisdiction of FERC over the transportation of both gas and liquids by pipeline is defined in much the same way. In implementing the HLPISA DOT has sought a practicable means of distinguishing between interstate and intrastate pipeline facilities that provide the requisite degree of certainty to Federal and State enforcement personnel and to the regulated entities. DOT intends that this statement of agency policy and interpretation provide that certainty.

In 1981, DOT decided that the inventory of liquid pipeline facilities identified as subject to the jurisdiction of FERC approximates the HLPISA category of "interstate pipeline facilities."

Administrative use of the FERC inventory has the added benefit of avoiding the creation of a separate Federal scheme for determination of jurisdiction over the same regulated entities. DOT recognizes that the FERC inventory is only an approximation

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and may not be totally satisfactory without some modification. The difficulties stem from some significant differences in the economic regulation of liquid and of natural gas pipelines. There is an affirmative assertion of jurisdiction by FERC over natural gas pipelines through the issuance of certificates of public convenience and necessity prior to commencing operations. With liquid pipelines, there is only a rebuttable presumption of jurisdiction created by the filing by pipeline operators of tariffs (or concurrences) for movement of liquids through existing facilities. Although FERC does police the filings for such matters as compliance with the general duties of common carriers, the question of jurisdiction is normally only aired upon complaint. While any person, including State or Federal agencies can avail themselves of the FERC forum by use of the complaint process, that process has only been rarely used to review jurisdictional matters (probably because of the infrequency of real disputes on the issue). Where the issue has arisen, the reviewing body has noted the need to examine various criteria primarily of an economic nature. DOT believes that, in most cases, the formal FERC forum can better receive and evaluate the type of information that is needed to make decisions of this nature than can DOT.

In delineating which liquid pipeline facilities are interstate pipeline facilities within the meaning of the HLPsA, DOT will generally rely on the FERC filings; that is, if there is a tariff or concurrence filed with FERC governing the transportation of hazardous liquids over a pipeline facility or if there has been an exemption from the obligation to file tariffs obtained from FERC, then DOT will, as a general rule, consider the facility to be an interstate pipeline facility within the meaning of the HLPsA. The types of situations in which

DOT will ignore the existence or non-existence of a filing with FERC will be limited to those cases in which it appears obvious that a complaint filed with FERC would be successful or in which blind reliance on a FERC filing would result in a situation clearly not intended by the HLPsA such as a pipeline facility not being subject to either State or Federal safety regulation. DOT anticipates that the situations in which there is any question about the validity of the FERC filings as a ready reference will be few and that the actual variations from reliance on those filings will be rare. The following examples indicate the types of facilities which DOT believes are interstate pipeline facilities subject to the HLPsA despite the lack of a filing with FERC and the types of facilities over which DOT will generally defer to the jurisdiction of a certifying state despite the existence of a filing with FERC.

*Example 1.* Pipeline company P operates a pipeline from "Point A" located in State X to "Point B" (also in X). The physical facilities never cross a state line and do not connect with any other pipeline which does cross a state line. Pipeline company P also operates another pipeline between "Point C" in State X and "Point D" in an adjoining State Y. Pipeline company P files a tariff with FERC for transportation from "Point A" to "Point B" as well as for transportation from "Point C" to "Point D." DOT will ignore filing for the line from "Point A" to "Point B" and consider the line to be intrastate.

*Example 2.* Same as in example 1 except that P does not file any tariffs with FERC. DOT will assume jurisdiction of the line between "Point C" and "Point D."

*Example 3.* Same as in example 1 except that P files its tariff for the line

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between "Point C" and "Point D" not only with FERC but also with State X. DOT will rely on the FERC filing as indication of interstate commerce.

*Example 4.* Same as in example 1 except that the pipeline from "Point A" to "Point B" (in State X) connects with a pipeline operated by another company that transports liquid between "Point B" (in State X) and "Point D" (in State Y). DOT will rely on the FERC filing as indication of interstate commerce.

*Example 5.* Same as in example 1 except that the line between "Point C" and "Point D" has a lateral line connected to it. The lateral is located entirely within State X. DOT will rely on the existence or non-existence of a FERC filing covering transportation over that lateral as determinative of interstate commerce.

*Example 6.* Same as in example 1 except that the certified agency in State X has brought an enforcement action (under the pipeline safety laws) against P because of its operation of the line between "Point A" and "Point B." P has successfully defended against the action on jurisdictional grounds. DOT will assume jurisdiction if necessary to avoid the anomaly of a pipeline subject to neither State nor Federal safety enforcement. DOT's assertion of jurisdiction in such a case would be based on the gap in the State's enforcement authority rather than a DOT decision that the pipeline is an interstate pipeline facility.

*Example 7.* Pipeline Company P operates a pipeline that originates on the Outer Continental Shelf. P does not file any tariff for that line with FERC. DOT will consider the pipeline to be an interstate pipeline facility.

*Example 8.* Pipeline Company P is constructing a pipeline from "Point C" (in State X) to "Point D" (in State Y). DOT will consider the pipeline to be an interstate pipeline facility.

*Example 9.* Pipeline company P is constructing a pipeline from "Point C" to "Point E" (both in State X) but intends to file tariffs with FERC in the transportation of hazardous liquid in interstate commerce. Assuming there is some connection to an interstate pipeline facility, DOT will consider this line to be an interstate pipeline facility.

*Example 10.* Pipeline Company P has operated a pipeline subject to FERC economic regulation. Solely because of some statutory economic deregulation, that pipeline is no longer regulated by FERC. DOT will continue to consider that pipeline to be an interstate pipeline facility.

As seen from the examples, the types of situations in which DOT will not defer to the FERC regulatory scheme are generally clear-cut cases. For the remainder of the situations where variation from the FERC scheme would require DOT to replicate the forum already provided by FERC and to consider economic factors better left to that agency, DOT will decline to vary its reliance on the FERC filings unless, of course, not doing so would result in situations clearly not intended by the HLPsA.

[Amdt. 195-33, 50 FR 15899, Apr. 23, 1985]

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### **Appendix B—Risk-Based Alternative to Pressure Testing Older Hazardous Liquid and Carbon Dioxide Pipelines**

#### **Risk-based Alternative**

This Appendix provides guidance on how a risk-based alternative to pressure testing older hazardous liquid and carbon dioxide pipelines rule allowed by §195.303 will work. This risk-based alternative establishes test priorities for older pipelines, not previously pressure tested, based on the inherent risk of a given pipeline segment. The first step is to determine the classification based on the type of pipe or on the pipeline segment's proximity to populated or environmentally sensitive area. Secondly, the classifications must be adjusted based on the pipeline failure history, product transported, and the release volume potential.

Tables 2-6 give definitions of risk classification A, B, and C facilities. For the purposes of this rule, pipeline segments containing high risk electric resistance-welded pipe (ERW pipe) and lapwelded pipe manufactured prior to 1970 and considered a risk classification C or B facility shall be treated as the top priority for testing because of the higher risk associated with the susceptibility of this pipe to longitudinal seam failures.

In all cases, operators shall annually, at intervals not to exceed 15 months, review their facilities to reassess the classification and shall take appropriate action within two years or operate the pipeline system at a lower pressure. Pipeline failures, changes in the characteristics of the pipeline route, or changes in service should all trigger a reassessment of the originally classification.

Table 1 explains different levels of test requirements depending on the inherent risk of a given pipeline segment. The overall risk classification is determined based on the

type of pipe involved, the facility's location, the product transported, the relative volume of flow and pipeline failure history as determined from Tables 2-6.

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TABLE 1.—TEST REQUIREMENTS—MAINLINE SEGMENTS  
OUTSIDE OF TERMINALS, STATIONS, AND TANK FARMS

Pipeline segment	Risk classification	Test deadline <sup>1</sup>	Test medium
Pre-1970 Pipeline Segments susceptible to longitudinal seam failures <sup>2</sup>	C or B	12/7/2000	Water only.
	A	12/7/2002 <sup>3</sup>	Water only.
All Other Pipeline Segments.	C	12/7/2002 <sup>3</sup>	Water only.
	B	12/7/2004 <sup>4</sup>	Water/Liq. <sup>5</sup>
	A	Additional pressure testing not required.	

<sup>1</sup> If operational experience indicates a history of past failures for a particular pipeline system, failure causes (time-dependent defects due to corrosion, construction, manufacture, or transmission problems, etc.) shall be reviewed in determining risk classification (See Table 6) and the timing of the pressure test should be accelerated.

<sup>2</sup> All pre-1970 ERW pipeline segments may not require testing. In determining which ERW pipeline segments should be included in this category, an operator must consider the seam-related leak history of the pipe and pipe manufacturing information as available, which may include the pipe steel's mechanical properties, including fracture toughness; the manufacturing process and controls related to seam properties, including whether the ERW process was high-frequency or low-frequency, whether the weld seam was heat treated, whether the seam was inspected, the test pressure and duration during mill hydrotest; the quality control of the steel-making process; and other factors pertinent to seam properties and quality.

<sup>3</sup> For those pipeline operators with extensive mileage of pre-1970 ERW pipe, any waiver requests for timing relief should be supported by an assessment of hazards in accordance with location, product, volume, and probability of failure considerations consistent with Tables 3, 4, 5, and 6.

<sup>4</sup> A magnetic flux leakage or ultrasonic internal inspection survey may be utilized as an alternative to pressure testing where leak history and operating experience do not indicate leaks caused by longitudinal cracks or seam failures.

<sup>5</sup> Pressure tests utilizing a hydrocarbon liquid may be conducted, but only with a liquid which does not vaporize rapidly.

Using LOCATION, PRODUCT, VOLUME, and FAILURE HISTORY “Indicators” from Tables 3, 4, 5, and 6 respectively, the overall risk classification of a given pipeline or pipeline segment can be established from Table 2. The LOCATION Indicator is the primary factor which determines overall risk, with the PRODUCT, VOLUME, and PROBABILITY OF FAILURE Indicators used to adjust to a higher or lower overall risk classification per the following table.

TABLE 2.—RISK CLASSIFICATION

Risk classification	Hazard location indicator	Product/volume indicator	Probability of failure indicator
A	L or M	L/L	L
B	Not A or C Risk Classification		
C	H	Any	Any

**H=High, M=Moderate, and L=Low.**

**Note: For Location, Product, Volume, and Probability of Failure Indicators, see Tables 3, 4, 5, and 6.**

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TABLE 3.—LOCATION INDICATORS—PIPELINE SEGMENTS

Indicator	Population <sup>1</sup>	Environment <sup>2</sup>
H	Non-rural areas	
M		
L	Rural areas	

<sup>1</sup>The effects of potential vapor migration should be considered for pipeline segments transporting highly volatile or toxic products.

<sup>2</sup>We expect operators to use their best judgment in applying this factor.

Tables 4, 5 and 6 are used to establish the PRODUCT, VOLUME, and PROBABILITY OF FAILURE Indicators respectively, in Table 2. The PRODUCT Indicator is selected from Table 4 as H, M, or L based on the acute and chronic hazards associated with the product transported. The VOLUME Indicator is selected from Table 5 as H, M, or L based on the nominal diameter of the pipeline. The Probability of Failure Indicator is selected from Table 6.

TABLE 4.—PRODUCT INDICATORS

Indicator	Considerations	Product examples
H	(Highly volatile and flammable).	(Propane, butane, Natural Gas Liquid (NGL), ammonia).
	Highly toxic	(Benzene, high Hydrogen Sulfide content crude oils).
M	Flammable—flashpoint <100F.	(Gasoline, JP4, low flashpoint crude oils).
L	Non-flammable—flashpoint 100+F	(Diesel, fuel oil, kerosene, JP5, most crude oils).
	Highly volatile and non-flammable/non-toxic.	Carbon Dioxide.

Considerations: The degree of acute and chronic toxicity to humans, wildlife, and aquatic life; reactivity; and, volatility, flammability, and water solubility determine the Product Indicator. Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity values can be used as an indication of chronic toxicity. National Fire Protection Association health factors can be used for rating acute hazards.

TABLE 5.—VOLUME INDICATORS

Indicator	Line size
H	≥ 18"
M	10"-16" nominal diameters.
L	≤ 8" nominal diameter.

H = High, M = Moderate, and L = Low.

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Table 6 is used to establish the PROBABILITY OF FAILURE Indicator used in Table 2. The “Probability of Failure” Indicator is selected from Table 6 as H or L.

TABLE 6.—PROBABILITY OF FAILURE INDICATORS (IN EACH HAZ. LOCATION)

Indicator	Failure history (time-dependent defects) <sup>2</sup>
H <sup>1</sup>	> Three spills in last 10 years.
L	≤ Three spills in last 10 years.

H = High and L = Low.

<sup>1</sup>Pipeline segments with greater than three product spills in the last 10 years should be reviewed for failure causes as described in subnote<sup>2</sup>. The pipeline operator should make an appropriate investigation and reach a decision based on sound engineering judgment, and be able to demonstrate the basis of the decision.

<sup>2</sup>Time-Dependent Defects are defects that result in spills due to corrosion, gouges, or problems developed during manufacture, construction or operation, etc.

[Amdt. 195-65, 63 FR 59475, November 4, 1998 as amended by Amdt. 195-65A, 64 FR 6814, February 11, 1999]

### Appendix C to Part 195—Guidance for Implementation of Integrity Management Program

This Appendix gives guidance to help an operator implement the requirements of the integrity management program rule in §§ 195.450 and 195.452. Guidance is provided on:

- (1) Information an operator may use to identify a high consequence area and factors an operator can use to consider the potential impacts of a release on an area;
- (2) Risk factors an operator can use to determine an integrity assessment schedule;
- (3) Safety risk indicator tables for leak history, volume or line size, age of pipeline, and product transported, an operator may use to determine if a pipeline segment falls into a high, medium or low risk category;
- (4) Types of internal inspection tools an operator could use to find pipeline anomalies;
- (5) Measures an operator could use to measure an integrity management program's performance; and
- (6) Types of records an operator will have to maintain.

I. Identifying a high consequence area and factors for considering a pipeline segment's potential impact on a high consequence area.

A. The rule defines a High Consequence Area as a high population area, an other populated area, an unusually sensitive area, or a commercially navigable waterway. The Office of Pipeline Safety (OPS) will map these areas on the National Pipeline Mapping System (NPMS). An operator, member of the public, or other government agency may view and download the data from the NPMS home page <http://www.npms.rspa.dot.gov>. OPS will maintain the NPMS and update it periodically. However, it is an operator's responsibility to ensure that it has identified all high consequence areas that could be affected by a pipeline segment. An operator is also responsible for periodically evaluating its pipeline segments to look for population or environmental changes that may have occurred around the pipeline and to keep its program current with this information. (Refer to §195.452(d)(3).) For



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more information to help in identifying high consequence areas, an operator may refer to:

- (1) Digital Data on populated areas available on U.S. Census Bureau maps.
- (2) Geographic Database on the commercial navigable waterways available on <http://www.bts.gov/gis/ntatlas/networks.html>.
- (3) The Bureau of Transportation Statistics database that includes commercially navigable waterways and non-commercially navigable waterways. The database can be downloaded from the BTS website at <http://www.bts.gov/gis/ntatlas/networks.html>.

B. The rule requires an operator to include a process in its program for identifying which pipeline segments could affect a high consequence area and to take measures to prevent and mitigate the consequences of a pipeline failure that could affect a high consequence area. (See §§ 195.452 (f) and (i).) Thus, an operator will need to consider how each pipeline segment could affect a high consequence area. The primary source for the listed risk factors is a US DOT study on instrumented Internal Inspection devices (November 1992). Other sources include the National Transportation Safety Board, the Environmental Protection Agency and the Technical Hazardous Liquid Pipeline Safety Standards Committee. The following list provides guidance to an operator on both the mandatory and additional factors:

- (1) Terrain surrounding the pipeline. An operator should consider the contour of the land profile and if it could allow the liquid from a release to enter a high consequence area. An operator can get this information from topographical maps such as U.S. Geological Survey quadrangle maps.
- (2) Drainage systems such as small streams and other smaller waterways that could serve as a conduit to a high consequence area.
- (3) Crossing of farm tile fields. An operator should consider the possibility of a spillage in the field following the drain tile into a waterway.
- (4) Crossing of roadways with ditches along the side. The ditches could carry a spillage to a waterway.

(5) The nature and characteristics of the product the pipeline is transporting (refined products, crude oils, highly volatile liquids, etc.) Highly volatile liquids becomes gaseous when exposed to the atmosphere. A spillage could create a vapor cloud that could settle into the lower elevation of the ground profile.

(6) Physical support of the pipeline segment such as by a cable suspension bridge. An operator should look for stress indicators on the pipeline (strained supports, inadequate support at towers), atmospheric corrosion, vandalism, and other obvious signs of improper maintenance.

(7) Operating condition of pipeline (pressure, flow rate, etc.) Exposure of the pipeline to operating pressure exceeding established maximum operating pressure.

(8) The hydraulic gradient of pipeline.

(9) The diameter of pipeline, the potential release volume, and the distance between the isolation points.

(10) Potential physical pathways between the pipeline and the high consequence area.

(11) Response capability (time to respond, nature of response).

(12) Potential natural forces inherent in the area (flood zones, earthquakes, subsidence areas, etc.)

II. Risk factors for establishing frequency of assessment.

A. By assigning weights or values to the risk factors, and using the risk indicator tables, an operator can determine the priority for assessing pipeline segments, beginning with those segments that are of highest risk, that have not previously been assessed. This list provides some guidance on some of the risk factors to consider (see §195.452(e)). An operator should also develop factors specific to each pipeline segment it is assessing, including:

(1) Populated areas, unusually sensitive environmental areas, National Fish Hatcheries, commercially navigable waters, areas where people congregate.

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- (2) Results from previous testing/inspection. (See §195.452(h).)
  - (3) Leak History. (See leak history risk table.)
  - (4) Known corrosion or condition of pipeline. (See §195.452(g).)
  - (5) Cathodic protection history.
  - (6) Type and quality of pipe coating (disbonded coating results in corrosion).
  - (7) Age of pipe (older pipe shows more corrosion—may be uncoated or have an ineffective coating) and type of pipe seam. (See Age of Pipe risk table.)
  - (8) Product transported (highly volatile, highly flammable and toxic liquids present a greater threat for both people and the environment) (see Product transported risk table.)
  - (9) Pipe wall thickness (thicker walls give a better safety margin)
  - (10) Size of pipe (higher volume release if the pipe ruptures).
  - (11) Location related to potential ground movement (e.g., seismic faults, rock quarries, and coal mines); climatic (permafrost causes settlement—Alaska); geologic (landslides or subsidence).
  - (12) Security of throughput (effects on customers if there is failure requiring shutdown).
  - (13) Time since the last internal inspection/pressure testing.
  - (14) With respect to previously discovered defects/anomalies, the type, growth rate, and size.
  - (15) Operating stress levels in the pipeline.
  - (16) Location of the pipeline segment as it relates to the ability of the operator to detect and respond to a leak. (e.g., pipelines deep underground, or in locations that make leak detection difficult without specific sectional monitoring and/or significantly impede access for spill response or any other purpose).
  - (17) Physical support of the segment such as by a cable suspension bridge.
  - (18) Non-standard or other than recognized industry practice on pipeline installation (e.g., horizontal directional drilling).
- B. Example: This example illustrates a hypothetical model used to establish an integrity assessment schedule for a hypothetical pipeline

segment. After we determine the risk factors applicable to the pipeline segment, we then assign values or numbers to each factor, such as, high (5), moderate (3), or low (1). We can determine an overall risk classification (A, B, C) for the segment using the risk tables and a sliding scale (values 5 to 1) for risk factors for which tables are not provided. We would classify a segment as C if it fell above 2/3 of maximum value (highest overall risk value for any one segment when compared with other segments of a pipeline), a segment as B if it fell between 1/3 to 2/3 of maximum value, and the remaining segments as A.

i. For the baseline assessment schedule, we would plan to assess 50% of all pipeline segments covered by the rule, beginning with the highest risk segments, within the first 3½ years and the remaining segments within the seven-year period. For the continuing integrity assessments, we would plan to assess the C segments within the first two (2) years of the schedule, the segments classified as moderate risk no later than year three or four and the remaining lowest risk segments no later than year five (5).

ii. For our hypothetical pipeline segment, we have chosen the following risk factors and obtained risk factor values from the appropriate table. The values assigned to the risk factors are for illustration only.

*Age of pipeline:* assume 30 years old (refer to “Age of Pipeline” risk table)—

Risk Value=5

*Pressure tested:* tested once during construction—

Risk Value=5

*Coated:* (yes/no)—yes

*Coating Condition:* Recent excavation of suspected areas showed holidays in coating (potential corrosion risk)—

Risk Value=5

*Cathodically Protected:* (yes/no)—yes—Risk Value=1

*Date cathodic protection installed:* five years after pipeline was constructed

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(Cathodic protection installed within one year of the pipeline's construction is generally considered low risk.)–Risk Value=3

*Close interval survey:* (yes/no)–no–Risk Value =5

*Internal Inspection tool used:* (yes/no)–yes. Date of pig run? In last five years–Risk Value=1

*Anomalies found:* (yes/no)–yes, but do not pose an immediate safety risk or environmental hazard–Risk Value=3

*Leak History:* yes, one spill in last 10 years. (refer to “Leak History” risk table)–Risk Value=2

*Product transported:* Diesel fuel. Product low risk. (refer to “Product” risk table)–Risk Value=1

*Pipe size:* 16 inches. Size presents moderate risk (refer to “Line Size” risk table)–Risk Value=3

iii. Overall risk value for this hypothetical segment of pipe is 34. Assume we have two other pipeline segments for which we conduct similar risk rankings. The second pipeline segment has an overall risk value of 20, and the third segment, 11. For the baseline assessment we would establish a schedule where we assess the first segment (highest risk segment) within two years, the second segment within five years and the third segment within seven years. Similarly, for the continuing integrity assessment, we could establish an assessment schedule where we assess the highest risk segment no later than the second year, the second segment no later than the third year, and the third segment no later than the fifth year.

III. Safety risk indicator tables for leak history, volume or line size, age of pipeline, and product transported.

### LEAK HISTORY

Safety risk indicator	Leak history (Time-dependent defects) <sup>1</sup>
High	> 3 Spills in last 10 years
Low	< 3 Spills in last 10 years

<sup>1</sup> Time-dependent defects are those that result in spills due to corrosion, gouges, or problems developed during manufacture, construction or operation, etc.

LINE SIZE OR VOLUME TRANSPORTED	
Safety risk indicator	Line size
High	≥ 18"

Moderate	10"–16" nominal diameters
Low	≤ 8" nominal diameter
AGE OF PIPELINE	
Safety risk indicator	Age Pipeline condition dependent <sup>1</sup>
High	> 25 years
Low	25 years

<sup>1</sup> Depends on pipeline's coating & corrosion condition, and steel quality, toughness, welding.

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PRODUCT TRANSPORTED		
Safety risk indicator	Considerations <sup>1</sup>	Product examples
High	(Highly volatile and flammable)	(Propane, butane, Natural Gas Liquid (NGL), ammonia).
	Highly toxic	(Benzene, high Hydrogen Sulfide content crude oils).
Medium	Flammable-flashpoint <100F	(Gasoline, JP4, low flashpoint crude oils).
Low	Non-flammable–flashpoint 100+F	(Diesel, fuel oil, kerosene, JP5, most crude oils).

<sup>1</sup> The degree of acute and chronic toxicity to humans, wildlife, and aquatic life; reactivity; and, volatility, flammability, and water solubility determine the Product Indicator. Comprehensive Environmental Response, Compensation and Liability Act Reportable Quantity values may be used as an indication of chronic toxicity. National Fire Protection Association health factors may be used for rating acute hazards.

### IV. Types of internal inspection tools to use.

An operator should consider at least two types of internal inspection tools for the integrity assessment from the following list. The type of tool or tools an operator selects will depend on the results from previous internal inspection runs, information analysis and risk factors specific to the pipeline segment:

(1) Geometry Internal inspection tools for detecting changes to ovality, e.g., bends, dents, buckles or wrinkles, due to construction flaws or soil movement, or other outside force damage;

(2) Metal Loss Tools (Ultrasonic and Magnetic Flux Leakage) for determining pipe wall anomalies, e.g., wall loss due to corrosion.

(3) Crack Detection Tools for detecting cracks and crack-like features, e.g., stress corrosion cracking (SCC), fatigue cracks, narrow axial corrosion, toe cracks, hook cracks, etc.

### V. Methods to measure performance.

A. *General.* (1) This guidance is to help an operator establish measures to evaluate the effectiveness of its integrity management program. The performance measures required will depend on the details of each integrity management program and will be based on an understanding and analysis of the failure mechanisms or threats to integrity of each pipeline segment.

(2) An operator should select a set of measurements to judge how well its program is performing. An operator's objectives for its program are to ensure public safety, prevent or minimize leaks and spills and prevent property and environmental damage. A typical integrity management program will be an ongoing program and it may contain many elements. Therefore, several performance measure are likely to be needed to measure the effectiveness of an ongoing program.

B. *Performance measures.* These measures show how a program to control risk on pipeline segments that could affect a high consequence area is progressing under the integrity management requirements. Performance measures generally fall into three categories:

(1) Selected Activity Measures—Measures that monitor the surveillance and preventive activities the operator has implemented. These measure indicate how well an operator is implementing the various elements of its integrity management program.

(2) Deterioration Measures—Operation and maintenance trends that indicate when the integrity of the system is weakening despite preventive measures. This category of performance measure may indicate that the system condition is deteriorating despite well executed preventive activities.

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(3) Failure Measures—Leak History, incident response, product loss, etc. These measures will indicate progress towards fewer spills and less damage.

### *C. Internal vs. External*

*Comparisons.* These comparisons show how a pipeline segment that could affect a high consequence area is progressing in comparison to the operator's other pipeline segments that are not covered by the integrity management requirements and how that pipeline segment compares to other operators' pipeline segments.

(1) Internal—Comparing data from the pipeline segment that could affect the high consequence area with data from pipeline segments in other areas of the system may indicate the effects from the attention given to the high consequence area.

(2) External—Comparing data external to the pipeline segment (e.g., OPS incident data) may provide measures on the frequency and size of leaks in relation to other companies.

*D. Examples.* Some examples of performance measures an operator could use include—

(1) A performance measurement goal to reduce the total volume from unintended releases by -% (percent to be determined by operator) with an ultimate goal of zero.

(2) A performance measurement goal to reduce the total number of unintended releases (based on a threshold of 5 gallons) by \_\_\_\_-% (percent to be determined by operator) with an ultimate goal of zero.

(3) A performance measurement goal to document the percentage of integrity management activities completed during the calendar year.

(4) A performance measurement goal to track and evaluate the effectiveness of the operator's community outreach activities.

(5) A narrative description of pipeline system integrity, including a

summary of performance improvements, both qualitative and quantitative, to an operator's integrity management program prepared periodically.

(6) A performance measure based on internal audits of the operator's pipeline system per 49 CFR Part 195.

(7) A performance measure based on external audits of the operator's pipeline system per 49 CFR Part 195.

(8) A performance measure based on operational events (for example: relief occurrences, unplanned valve closure, SCADA outages, etc.) that have the potential to adversely affect pipeline integrity.

(9) A performance measure to demonstrate that the operator's integrity management program reduces risk over time with a focus on high risk items.

(10) A performance measure to demonstrate that the operator's integrity management program for pipeline stations and terminals reduces risk over time with a focus on high risk items.

VI. Examples of types of records an operator must maintain.

The rule requires an operator to maintain certain records. (See §195.452(l)). This section provides examples of some records that an operator would have to maintain for inspection to comply with the requirement. This is not an exhaustive list.

(1) a process for identifying which pipelines could affect a high consequence area and a document identifying all pipeline segments that could affect a high consequence area;

(2) a plan for baseline assessment of the line pipe that includes each required plan element;

(3) modifications to the baseline plan and reasons for the modification;

(4) use of and support for an alternative practice;

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(5) a framework addressing each required element of the integrity management program, updates and changes to the initial framework and eventual program;

(6) a process for identifying a new high consequence area and incorporating it into the baseline plan, particularly, a process for identifying population changes around a pipeline segment;

(7) an explanation of methods selected to assess the integrity of line pipe;

(8) a process for review of integrity assessment results and data analysis by a person qualified to evaluate the results and data;

(9) the process and risk factors for determining the baseline assessment interval;

(10) results of the baseline integrity assessment;

(11) the process used for continual evaluation, and risk factors used for determining the frequency of evaluation;

(12) process for integrating and analyzing information about the integrity of a pipeline, information and data used for the information analysis;

(13) results of the information analyses and periodic evaluations;

(14) the process and risk factors for establishing continual re-assessment intervals;

(15) justification to support any variance from the required re-assessment intervals;

(16) integrity assessment results and anomalies found, process for evaluating and repairing anomalies, criteria for repair actions and actions taken to evaluate and repair the anomalies;

(17) other remedial actions planned or taken;

(18) schedule for reviewing and analyzing integrity assessment results;

(19) schedule for evaluation and repair of anomalies, justification to support deviation from required repair times;

(20) risk analysis used to identify additional preventive or mitigative measures, records of preventive and mitigative actions planned or taken;

(21) criteria for determining EFRD installation;

(22) criteria for evaluating and modifying leak detection capability;

(23) methods used to measure the program's effectiveness.

[Amdt. 195-70, 65 FR 75378, Dec. 1, 2000]